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model car Science

FEBRUARY 1964

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AMT'S '40 WILLYS COUPE

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from ED "BIG DADDY" ROTH

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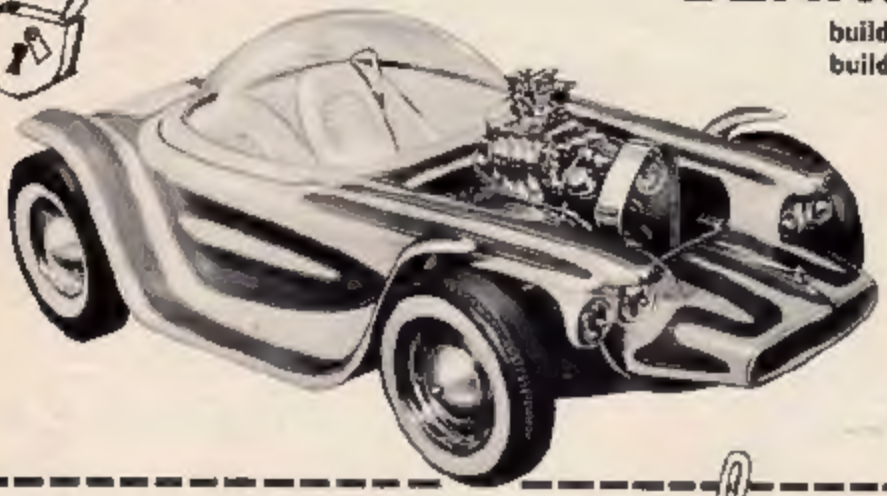

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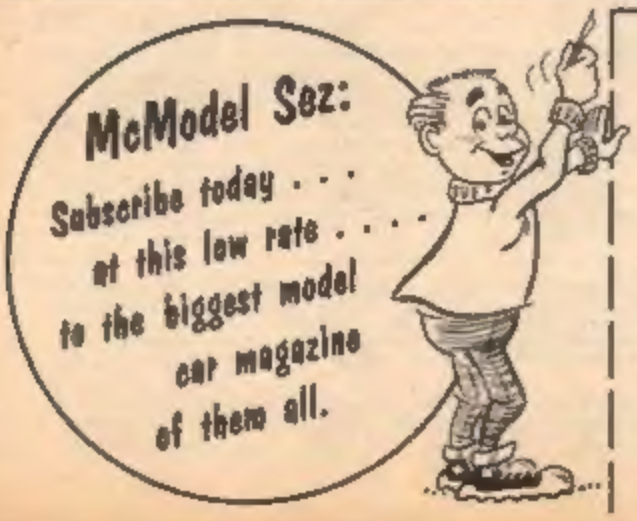

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model car Science

COVER — Dick Oreck, that extraordinary craftsman featured in the December Model Car Science, has done it again. This time Oreck, owner of a store fixture firm in downtown Los Angeles, and part-time actor, went all the way with the Monogram Green Hornet, AMT's '32 Coupe, and Monogram's Black Widow. Details like hand turned rear wheels and pressure tank, gold plated velocity stacks (on the '32 Coupe) and fully wired mills are but a few of his extra touches. AMT's '40 Willys Coupe, half of their newest double kit, is detailed on page 19. Another thrilling phase of miniature car-dom relatively untapped is the gas-powered model. This new car shows all the earmarks needed for the beginning of a great new hobby-sport.

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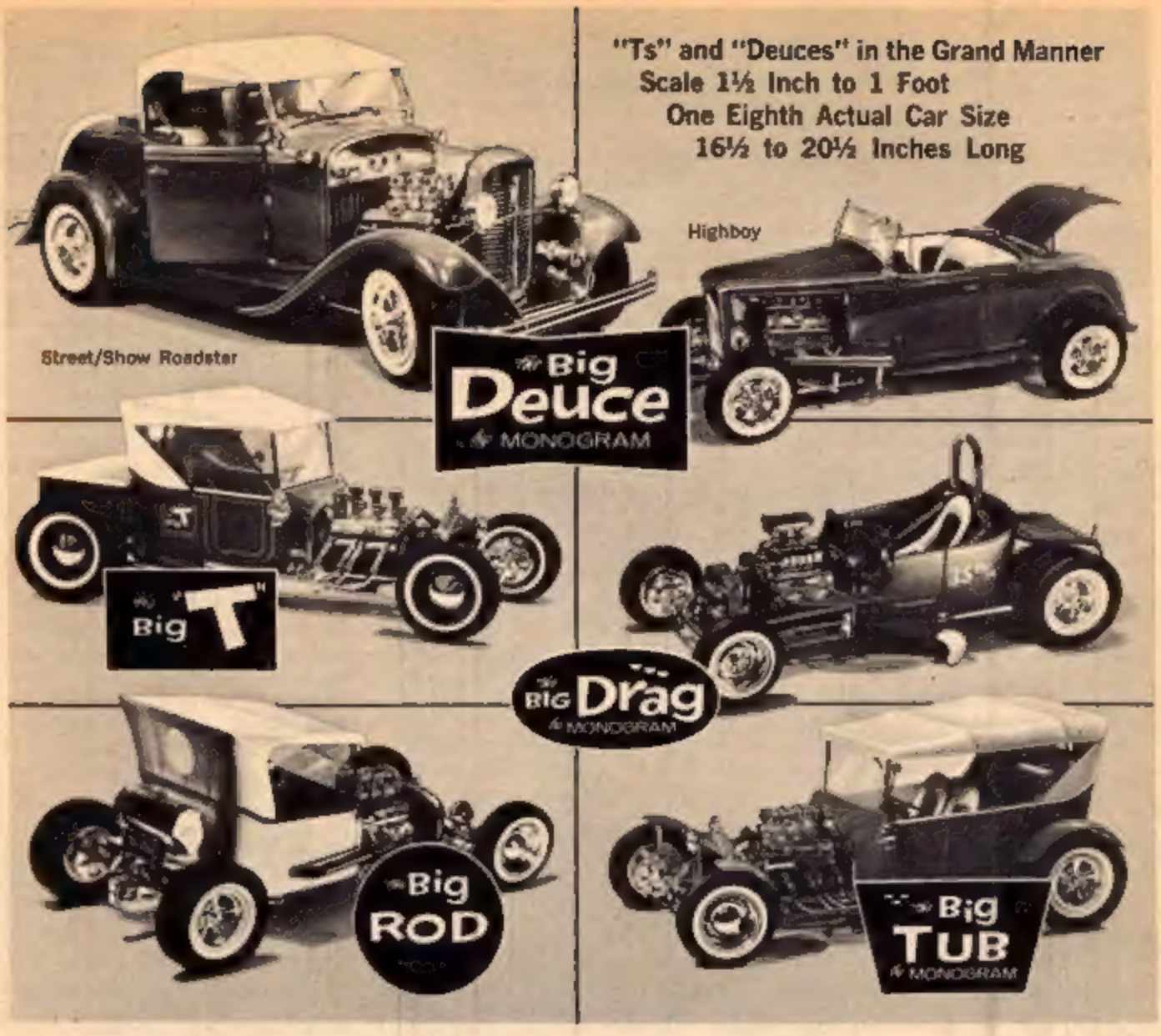
Road Angel Auto Club, 1058 Elmore St., Green Bay, Wisconsin. Phone 435-8317

Canada

Maxport Slot Car Racing Club, 5 Sellmar Rd., Weston Ontario, Canada

Rigby's Variety Hobby Shop, 3847 Bloor St., West, Islington, Ontario.



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How To Start A Club

by Stephen Urette

Hundreds of Model Car Science readers have written in asking how to start a model car club and make it a success. There is no tried-and-true formula but here are a few basic steps that should start most groups off on the right foot.

When a model car club is formed, members soon find that they are automatically in a position to learn new skills, perfect old ones, develop new interests, and make warm friendships. Many model clubs have been established just for serious hobbyists to share their building and customizing experiences. Some groups devote their meetings to "bull sessions" where everything from antique cars to Zagato bodied coupes are discussed. Others will get together whenever a car show is in town, or at the local drag strip or slot track to see other groups in competition.

Advertise for members

An excellent club can be organized by as few as three or four people if they are agreed on their purpose for forming. It is advisable, however, to look around for as many members as can be found. It costs nothing to place a news item in a local or community paper, but, if the editor's cooperation is to be won, he must be given a well-written, newsy item of no more than a hundred words. Even as the club progresses, its name should continue to be kept before the public.

Divide the work

Once formed, to keep things on an even keel, give the more simple tasks to the apprentice members, and leave all the difficult problems to the experts. Demand perfect work, but take care that the inexperienced are not frightened off; put every apprentice under the wing of an expert till he learns to do one simple task well.

Officers for the club should be elected semi-annually so desired positions may be rotated. Committee positions and chairmanships are spread throughout the membership so that all members during the first year at least, have specific duties and titles.

Where to get that needed money

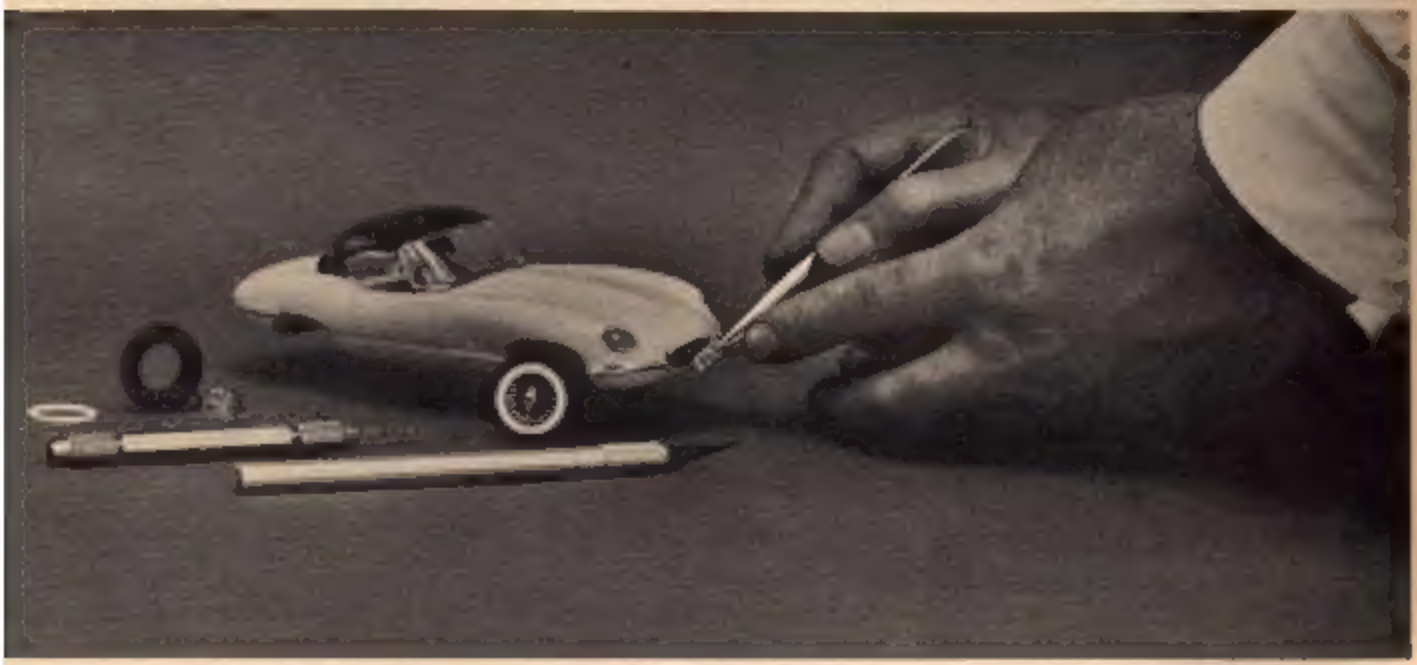
Although sponsorship of recreation centers, YMCA's, Scout Troops, churches, business and fraternal groups are usually fairly easy to obtain, a good club should be financially self-supporting. Expenses should be covered by the collection of a small weekly dues. For slot racing clubs, sale of advertising space on billboards in the track layout can earn extra revenue.

Another fund raising project that should be considered by a club is the combining of joint efforts to take pictures of your cars or track. Every month two people cash in on the MCS contests for the best table top racing picture, and best custom model.

Once you've raised operating funds, appoint a Club Treasurer to keep a firm grip on the money. Needless spending will break up any club. The safest rule is to require unanimous consent of all members to every expenditure.

After you have formed the group and established a treasury, the battle is still only half won. The task of keeping enthusiasm stimulated requires quite a bit of resourcefulness. Some of the methods used to keep interest going at a steady pace are regular meetings, contests and special projects.

Several different types of model car contests can be held each year. Car dealers, roadster shows, hobby shops and schools can all be called upon to help sponsor periodic events.



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Slot Racing News

Published by Strombecker, Div. of Dowst Mfg. Co., 600 North Pulaski Rd., Chicago 24, Ill.

NEW OFFICIAL SLOT RACING PRODUCTS!

BRM and Dragster Increase Strombecker Stable to 14

Take a look at these two beauties—the world champion BRM and the slick Dragster—the newest additions to the Strombecker stable of famous 1/32 scale racing machines. The BRM has a wrap-around shell that's the latest thing in racing realism—and it comes complete with two guiding devices—a round pin and an extra long rudder designed especially for competitive racing. The Dragster, beautifully chrome-plated, can be built with open or closed front and in two models—the "Silver Spook" and the "Silver Ghost". Plenty of other features in both cars—and plenty of speed, too—200

m.p.h. and more, thanks to Strombecker's rugged 12-volt motors. Better check these two winners at your Strombecker dealer today—only $3.95 in Custom Kits, $5.95 built-up and rarin' to go!

NEW BRASS CHASSIS GREAT FOR SCRATCH BUILDING

Like to build your cars from the ground up? Then you'll go for Strombecker's new Brass Chassis. It's loaded with exclusive features like spring suspension; self-aligning oilite bronze bearings; predrilled for motor mounting; and an open bottom to eliminate motor shorting. Completely flexible in design, Strombecker's new brass chassis can be used to build every slot racing machine you'll ever want to race—and it's the best there is when it comes to designing your own car. Price? Only $2.00.

NEW STROMBECKER SHELLS LOOK TERRIFIC!

Now you scratch builders can buy new 1/32 scale Strombecker car shells—the XR-E Jaguar and the Ferrari Berlinetta! Everything you need is included: car body, windows, motor shroud, driver's head, tail pipes, headlight covers, decals and instructions. Easy to adapt to slot racing—and they're only $1.29 each. You can't miss the great looking box—it has an authentic car illustration and flag of the country of origin.

Competition Accessory group tops for "ALL OUT" speed!

Here's the "all out" speed kit now being used by the country's leading drivers . . . the guys who know what it's like to be in the winners circle. Includes: precision lathe-turned aluminum racing hubs; positive-mesh bevel gear and pinion; screw axles and nuts; and brass bushings for front and rear. If you're hot for speed, latch on to Strombecker's Competition Accessory group at your nearest dealer. The price is $1.95. And while you're at it, ask to see Strombecker's new knock-off hubs, slick tires with mag wheels and great new customizing decals.

Ackerman Steering Duplicates Real Racing Car Action!

If you're looking for the most in racing realism, steering and performance, and more speed, too—it's time you tried Strombecker's Ackerman Steering kit. Includes spoke wheels, with knock-off hubs and braided pick-up brushes. Parts are made of extra rugged delrin. Ask to see it at your Strombecker dealer. Price $1.49.

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Want to know what's happening in the world of slot racing? You can read all about it in Strombecker's Table Top Topics. Send 10c to: Dept. C$ Strombecker, 600 N. Pulaski Rd., Chicago 24, Ill.

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TRACK TALK

BY BILL SIPPEL

AS I TOLD YOU last month, I have really been moving around. Now, I'd like to tell you about a couple funny things that happened to me while in New York.

Met some fine fellows and real enthusiasts in the Asphalt Jungle and surrounding areas, like Frank Parker and club of Devon, Conn., not to mention the famous Cressi of Glen Cove, Long Island. Got real lucky on a call to Cressi to see his track, not only were we welcome, but it was race night as well.

Dick Dobson, a top modeler and slot racer from Rockford, Ill., made the trip with me. One example of his work is the wild Ferrari GTO shown on the cover of last December's Model Car Science. At any rate, when we arrived, they were ready and willing to meet and accept us — despite our odd accents. You could see them snicker more than a little however, when they saw our funny little cars. Dick had this crazy little guide pin in his car — right at the front axle, and no blade as is common in the Midwest. Mine had a blade just ahead of the axle, as is common in the West. Easterners have their blade about 1/3rd of the way back under the car. Both Eastern and Midwest enthusiasts had fat sponges for rear tires; I used skinny little 401's on the rear. The one thing we all had in common was scale: they were all 1/32nd.

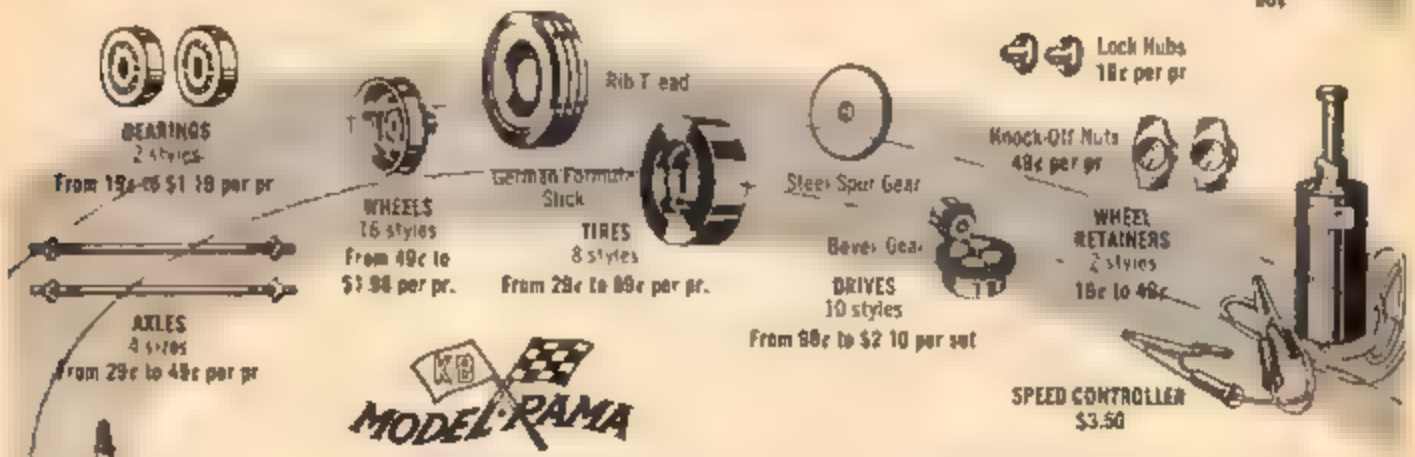
A few other things made me feel good. Their great track was only two weeks old and built from the MCS "How-To" article. They were also on a 12-volt battery and using the MCS scoring system. The track will be featured in a future issue of Model Car Science, so I won't go into details here. Back to the GO between East, Midwest, West and guide for guide.

The only thing to do to keep from making excuses later is to start with one. So with each of us claiming his car to be in a "piggy" state, we went at it. We didn't really race in the true sense of the word but rather dueled back and forth, staying close together. Enough was learned from this so that no one felt he had a superior machine or guide. Each racer gained a little respect for the other fellow's style, and yet, I doubt if anyone there will change his system on pickup style or location. I did gain a little respect for those skinny little tires I ran. Also, I think we all learned that no matter where you live, the cars are all about the same in the speed department. You'll usually have the best edge on a competitor in your own back yard.

While getting ready to head back to our respective home towns, we stopped in at one of New York's leading 5th Ave. hobby shops. One of the things that caught our eye was a large stuffed elephant rolling a beach ball with his trunk. Price tag on this plush toy: $395. Both Dick Dobson and I agreed that such a bargain could not include the ball, and jokingly placed a $95.00 price tag on it. Later, while making a purchase of less expensive gifts for our kids at home, Dick had to know if the ball was included when you purchased the elephant. A very serious NO from the saleslady and a check found the ball to be listed as a plush ball, selling at a very conservative $50.00! Our joke wasn't a joke and we probably seemed like the village idiots to people within range of our laughter. And some people think slot racing is expensive!

Speaking of slot racing, let's come up with something better than that name for our fine hobby. Start sending in sensible names and I'll get to work finding prizes for the person that comes up with a winner. Send your ideas to me c/o Model Car Science, Track Talk, 171 S. Barrington Place, Los Angeles, Calif., 90049.

THE EASY ROAD TO SLOT CAR RACING FUN!



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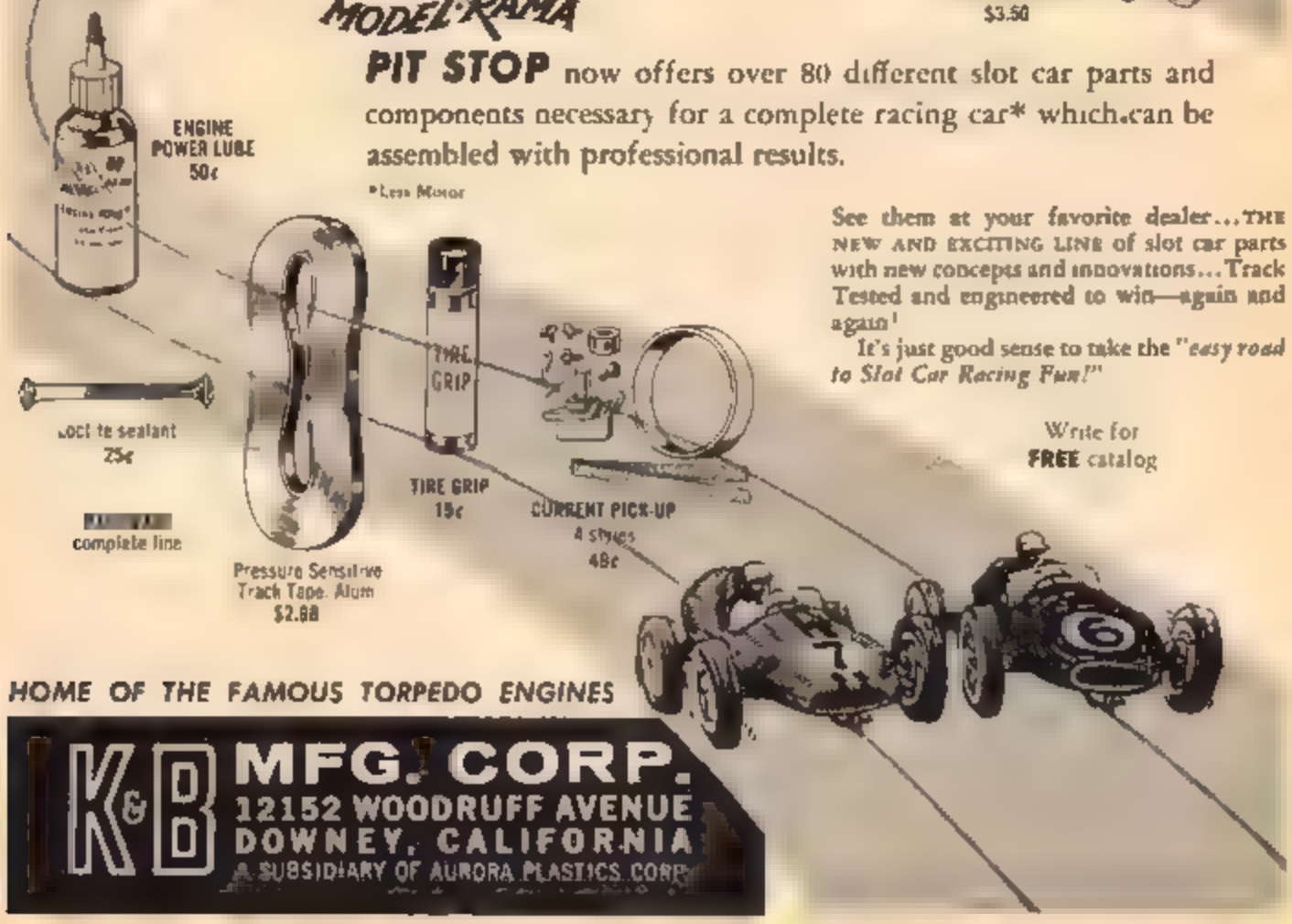

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Table Top TRACK Operators

In coming months, Model Car Science will feature a nation-wide directory of table top tracks, their locations and times of races. This is a FREE service for our readers . . . there is no charge for this listing. Send news of your track TODAY to:

Model Car Science
171 Barrington Pl.
Los Angeles 49, Calif.

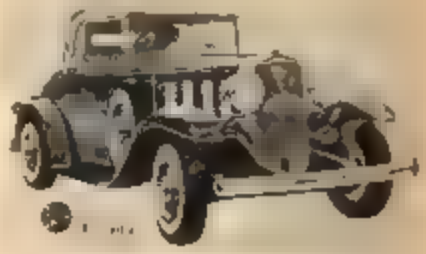
NEW TO SCALE

This sharp racer, "Lightronic" will start the moment a flashlight beam strikes the solar cell that provides the power, and stop the instant the beam is withdrawn. A product of International Rectifier Corp., "Lightronic's" speed can be controlled by tracking with the flashlight. Selling for $9.95, the kit requires no glue, solder or special tools for assembling.

Ed "Big Daddy" Roth has done it again! Joining two other Roth creations (the Outlaw and Tweedy Pie) this Beatnik Bandit will feature such "goodies" as a hinged bubble top, a one-piece body, blown Olds engine, metal axles, American Racing Mag Wheels and many more. This wild and way out show car in 1/25th scale will retail for $2.00.

AMT's newest 3-in-1 kit is the stock, custom, and racing version of the 1964 Buick Wildcat. Added to this restyled version are louvered rocker panels and exhaust treatment, rectangular headlights, custom spot lights, custom bucket seats and steering wheel, plus a rear seat tonneau cover. Four-barrel carburetors, GMC blower, low-profile manifold system, restyled headers, racing exhaust dumps, and other authentic equipment were added for the racing model.

Latest addition to the Lindberg line is this Sportsman Classic Racer. Molded in light blue plastic, this 5-5/8 inch long rod is a replica of the racer used on oval tracks, very popular in California. Engine is a Chevy 283 with six carbs.



Four new Chevys in the popular Table Top Series have been added to Pyro's popular 1/32 scale models. Heading this popular line of 50¢ cars is the very scarce '32 Cabriolet, a '37 Coupe, a '52 Fastback, and the always popular '57 Hardtop. All four kits are molded in authentic automobile colors, with clear windshields, windows, and headlamps. They are also easy to convert to 1/32 scale road racing.

A double package of speed thrills for the price of one — a Sanitary 'T' Bucket and a Revell-Mooneyes dragster all in one kit, is now available from Revell. This first of three new double car kits features a '23 'T', with opening doors, and a 1/25th scale replica of the Revell-Mooneyes dragster, which recently earned international recognition for its racing exploits in England. This dragster has a choice of a Chrysler V-8 or a Chevy 283 blown V-8 both completely chromed. This first double car kit from Revell will Retail for $2.00.

MODEL MAIL

Mail Order Models

I have been a persistent reader of your magazine and am greatly impressed by your articles on slot racing.

In England I have found that the range of models that can be bought is very limited, and through your magazine my interest has widened considerably.

I have inquired over here through various model shops, about several American-made models, but with no success. This is my reason for writing to you.

I would like to know if it is possible for a person living in England to write to various car manufacturers in America and order specific cars to be mailed to England.

A.E.J. Page
London, England

Since most American manufacturers are not set up to handle direct mail retail sales, your best bet would be to contact some of the larger mail order dealers in this country like Auto World, Box 961 M8, Scranton Pa., or Hobby Center, 146 West 22nd St., New York N.Y.

Paint Problems

As you know, model cars come from the factory without any chrome on their body. Is there a chrome paint that I can buy for body application? I have been using silver and aluminum paint for the parts of the models that I wanted chrome such as side trim, roll bars, etc. This method is unsatisfactory for me.

Beauford Blackwell
Powell, Tennessee

To the best of our knowledge, there is no chrome paint on the market suitable for model cars, but for some great new ideas for metal finishes, see page 16.

Tipping the Scales

What's the bit with all the arithmetic? 1/24, 1/25, 1/32, 1/48/ 1/69 & 1/97! What ever happened to the "good old days" when you just built a model of a car you admired, and called it a day? Who cares if a model is 1/24 or 1/25th scale, and what possible difference could it make?

Jesse Ambrose
Placious, Texas

J.A., it sounds like you've been hitting the 1/5th. Try to run a 1/24 scale car on an HO track and see how far you get. When you've finished that project, try to build a Big T using Revell parts.

J-RAY gull wing doors

Every few years Detroit automobile makers bring out a car that is natural for customizers. The 1957 Chevy and the 1949 Ford were two great examples. In 1963 Detroit did it again, they created the Chevrolet Sting Ray Fastback. This model Sting Ray is now destined to be one of the all time favorites. Just as the real Sting Ray will ever be popular, the model of it will also be a winner. Since the 1/25 scale Sting Ray is perfect for customizing, just what can you do to it?

If there is such a thing as a universal problem among model car customizers, it would be deciding exactly what ideas to use, or, more important, where to get the ideas. One really original idea is very difficult to come by, let alone design, of an entire car. The car featured here is basically stock with the exception of the "gull wing" doors, which were taken from the new "Cheetah" sports car. This car was designed primarily as a G.T. Sports car which would see most of its action on the road race track, or, on the drag strip. The biggest difference between the two types would be the rear tires.

Because this car is so low the Ulrich mini-man was added to show that it would be possible to build it in full size. One important fact was taken into consideration in the initial planning of this car. That was the selection of the proper car to go with the ideas in mind. To put it another way, this same type of design could have been built around a "T" sedan instead of a Sting Ray but which would be better?

In studying the steps on these pages you will note that all the body parts used are just about stock; very few changes were necessary. This is important because the fewer part changes, the fewer tools you need. Be sure to watch for next month's issue where the interior is designed and other finer details are spelled out.

1. Place Revell's XKE bottom section against the Sting Ray so the rear wheel wells are seen with the top of fender.

2. With a straight edge, mark your cutting line as shown from Step 1. Rear body section is cut off right at crease line.

3. Using a Dremel tool, Auto World's cutter or X-Acto saw, carefully cut along your mark. Be sure to make the cut straight.

4. Place window insert on body and outline. This will give you approximate size of new rear window.

5. After drawing the shape of the gull wing door and removing, reverse the door and trace shape on other side of the roof

6. Here you can see the shape of the doors and rear window.

7. The easiest way to cut the doors is to use Auto World's cutter. For the best results note the depth of the blade into the plastic.

8. Enlarge rear window making sure to cut on the inside of the lines so stock window insert edge will not show.

9. Hold the XKE part in position and mark areas where wheel wells hit the Sting Ray fenders.

10. Cut the marked areas out and check for fit. Wheel wells should stick through and be just even with fenders.

11. With the Ungar Electric Pencil and holding bottom in place, melt the two halves together. Here is where a straight cut on the upper half pays off Note the side view of door opening. Leave ¼ in. between bottom of Sting Ray and top of XKE portions.

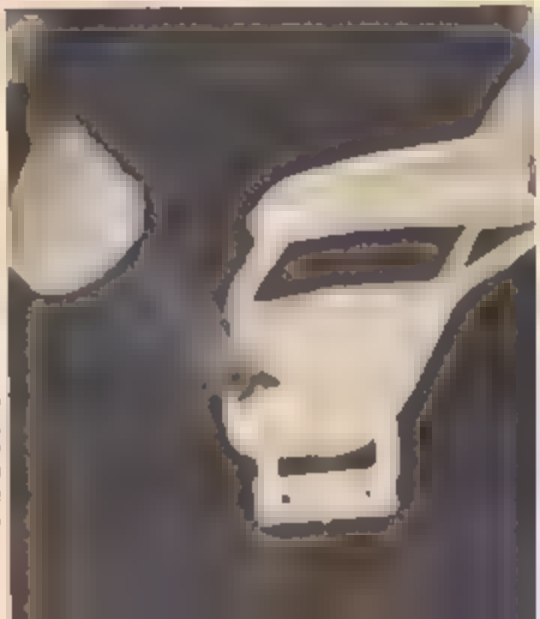
12. Take a piece of plastic tree and melt it into place. This will not only strengthen your car, but will help form your rear window.

13. Since the XKE is narrower in the rear than the Sting Ray, the excess must be cut off and the two halves melted together.

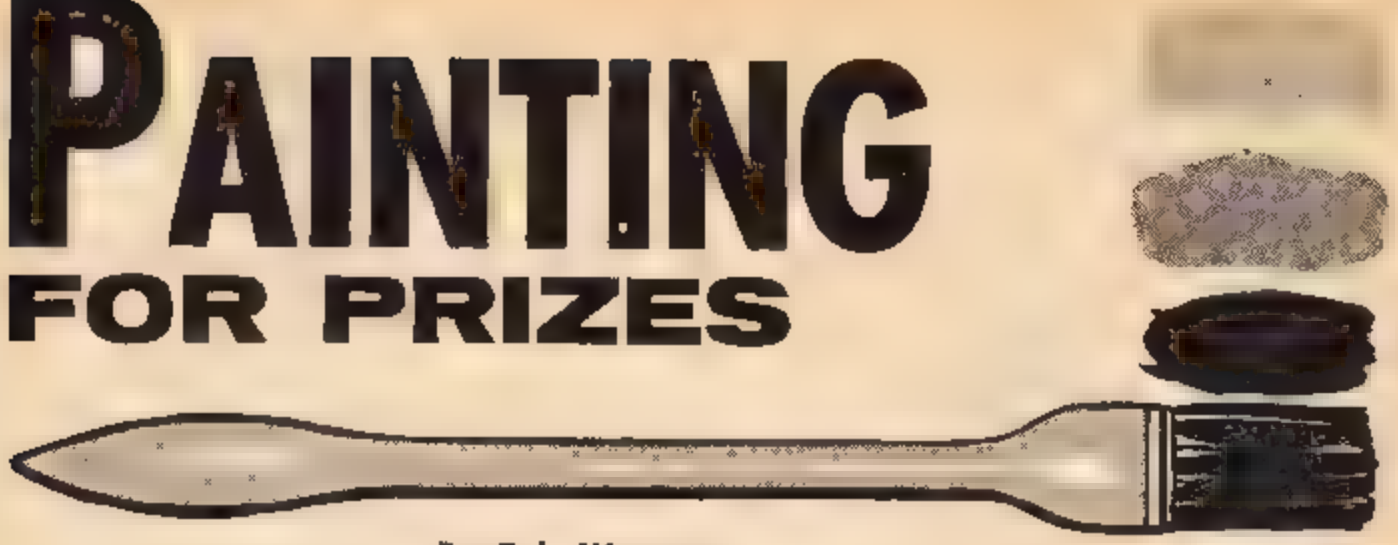
14. Because the body is sectioned it is necessary to section the front body portion. Take out about ¼ inch and cement into place. Then melt the plastic to smoothness.

15. To make it easier to install door hinges, and later for the interior, it is necessary to cut out the square as shown.

16. Because of the limited space for the placement of hinges, Revell's '57 Chevy hinges were used. The only change needed is the body portion of the hinge must be made smaller.



PAINTING FOR PRIZES



By Bob Wagner

Here's a valuable collection of Painting Tips well worth remembering!

Some small pieces can be left on trees and painted.

Coat hanger is bent in this manner.

Excess primer in door lines and other molding lines are cleaned out with X Acto knife.

After primer is completely dry sand with #600 sandpaper.

JUDGING FROM MAIL RECEIVED, many of you have had paint problems of one type or another. We hope these tips will answer many of those problems.

Preparation prior to painting is one of the most important steps in achieving a good finish in a paint job. This cannot be stressed strongly enough. When all body work is completed, a preliminary sanding of entire model with #400 wet and dry sandpaper should be done. Body is then lightly washed and thoroughly dried with a lint-free cloth.

A coat of primer is now applied to the model. This will show up bad spots not observed after the preliminary sanding. All models should receive a coat of primer, as many imperfections will only show when paint is applied. Bead spots such as pits or cracks should be filled with putty. After putty dries completely it should be wet sanded smooth with #400 wet and dry sandpaper. Remember to use care when sanding putted areas as putty is a softer material and is cut away faster than the plastic.

After a thorough cleaning, car is again primed and rechecked for bad spots. If body is cherry, and meets with builder's satisfaction, a couple more coats of primer are put on and allowed to dry for about eight hours. Next, wet sand car lightly with #600 wet and dry paper. Be careful not to sand through primer coats. Model is now ready for color coats.

FACTORS INFLUENCING PAINTING

Weather is one of the most important factors in painting. Never try painting when it is raining or if it is extremely damp as there is too much water vapor in air for paint to dry properly. Extremely hot weather hampers painting also. Heat causes lacquers to fog or cloud, and dry too quickly, resulting in a poor gloss. Best paint jobs are achieved when the temperature is between 65-75 degrees. If a spray can is used, bring it to room temperature (for best results) by warming it in hot water. NEVER HEAT IT OVER A FLAME OR ON A STOVE! Alternately remove from water and shake can to make sure paint is uniformly warmed. Always paint in a clean, dust free area, as dirt and dust get into paint jobs leaving pock marks (where paint builds up around dust particles) and spoil the finish.

TYPES OF PAINT EQUIPMENT

A brush is the least expensive painting tool, but it does not necessarily give the best finish. A spray gun or can is best cost wise. Most colors used on cars can now be found in a spray can. Regular automotive colors, pearls, candies can all be purchased in spray cans at a hobby shop, paint store, or automotive supply house.

Several inexpensive spray guns are now available for model builders. A $4.45 gun is now available at most hobby shops, or may be ordered direct from Auto World, Dept. M-3, Box 961, Scranton, Pennsylvania. Most other types of paint equipment run into a considerable amount of money and should not be tried by beginners as a great deal of practice is needed first. An air brush also gives a very good finish. Another handy spray gun for models is the Banks touch up unit.

PAINTING CANDIES

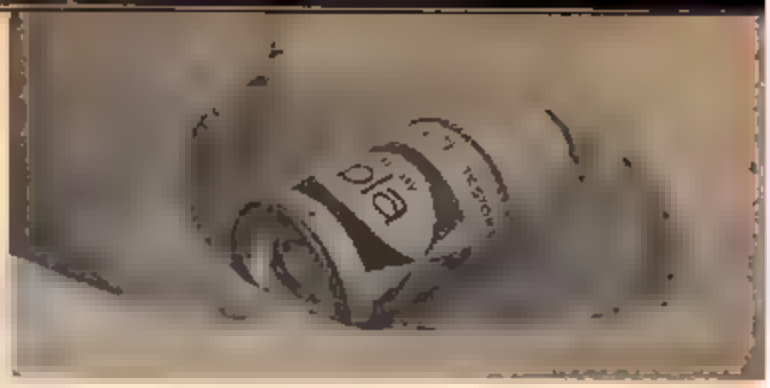
AMT makes candy colors in lacquer while Pactra's are enamel. NEVER UNDER ANY CIRCUMSTANCES, PUT A LACQUER OVER AN ENAMEL, or disastrous results will occur. Borris makes a new type of candy paint called "Kandy Lak." This is a new formula with color and underbase in one mix. It is available in six existing colors, including Kandy Red, Oriental Blue, Mint Green, Wild Cherry, Pagan Gold, and Tangerine, plus Krystal Klear, in spray cans from Accessories International, Inc., 2627 San Fernando Road, Los Angeles 65, California. Price is $2.75, one can will do several cars. This mix can be used on models provided AMT's primer is used first and allowed to dry thoroughly. Plastic will not be eaten or crazed if done in this manner. Cal-Custom also makes candy paints in spray cans. It is available at automotive supply houses or by

Chart gives model painter an idea of what colors are compatible. It also shows what upholstery and paint colors go together.

THE DO'S AND DONT'S OF COMBINING COLORS

If your predominant color is to be	a conservative contrast would be . .	a bright contrast would be	but don't paint it . .
Dark Blue	white, off-white, light blue, silver, gold, bronze	yellow	green, orange, black, purple, maroon
Light Blue	dark blue, black, white, silver	yellow	purple, orange, red, green
Green	lighter green, silver, gray, off-white, black	white, bronze, gold	blue, red, orange, yellow, maroon, purple
Black	gray, maroon, silver, light blue, light green, bronze, gold	turquoise, orange, red, yellow, pink	dark blue, dark green, purple
White (or off-white)	gray, silver, blue, yellow, green, bronze, gold	red, orange, black, turquoise, maroon, purple, orchid	cream, off-white
Red	(any other shade would be considered a bright contrast to red).	gray, silver, black, white, cream, beige, tan	green, blue, purple, yellow, orange, maroon, bronze, pink
Yellow	white, off white, gray, bronze, brown	black, dark blue	orange, pink, purple, red

Car should be washed and dried thoroughly after sanding



Spray can should be warmed for 60 seconds in warm water.

A bent coat hanger is another method of holding car while painting.

A home spray booth can be made out of a cardboard box or Pactra makes a home spray booth to keep models dust free.

ordering directly from, California Custom Accessories Mfg. Co., Los Angeles 47, California. In seven dazzling colors, price is $2.98 per can, enough for doing several cars. Same process as listed for Barris "Kandy-Lak" is followed with the exception that in this case an underbase will have to be used. Different underbases give different effects to candies sprayed over them

GOLD creates a brilliance in any candy color applied over it. Increased sparkle, reflects a higher percentage of light striking the surface color It also adds warmth to any color coat.

SILVER underbase tones down the surface color Produces a "chrome like" effect. Makes surface color cooler in tone values and appearance.

COPPER underbase tends to darken surface color It offers a warm, rich tone, but less luster than either silver or gold Adds a feeling of richness to the color

MOTHER OF PEARL as an underbase will produce a very bright, standout color. Refer to pearl painting in this article for application of pearl underbase

After car is completely covered with underbase it should not be touched in any way with the hands, as they will leave dark prints that will show thru the finished color coats. If hand prints, or any irregularities are encountered, surface should be repainted as mistakes cannot be spot removed successfully The secret to a perfect candy paint job is to make sure the underbase is applied evenly (no splotches) since all mistakes will show thru color coats.

After underbase has been applied, model should be allowed to sit in a dust free area for approximately eight hours. Next step is the color coats. These are applied directly over the underbase. Mist on the first coats and remember not to get closer than 10-12 inches from car as candy colors are extremely thin and will run very easily. Let each coat dry thoroughly before applying the next Last coats are applied a little closer to obtain a high gloss. For a real deep gloss finish, after color coats have been allowed to dry completely, spray on a couple coats of clear

When paint has been allowed to set for a couple of days it is ready for wax Any good automotive wax is suitable.

PEARL PAINTING

Pactra manufactures pearl in five shades or another good pearl paint is available from Accessories International, Inc. This paint was developed by Dean Jefferies. By using his special white underbase (1P-15W8) it can be applied without damaging the plastic. It comes in seven colors at $2.50 per can, this is enough to do several cars. Colors available include 51L Lavender 52L Lime Green, 53W Pearl White, 54AB Alice Blue, 55P Persimmon, 56Y Yellow, 57G Satin Gold. When using white pearl, car should be painted with a good coat of flat white, several coats may be required to completely cover model. After this has dried, wet sand with #600 wet and dry sandpaper Make sure not to sand through the white paint. Now spray on the coats of natural pearl. These steps are also followed if natural pearl is to be used as an underbase for candy colors. When natural pearl has dried Spray on desired candy color in light even coats until desired shade is obtained. When colored pearl is used there are two alternatives: one is to follow above steps if a white underbase is used. Second is to use a color darker than the tinted pearl as the underbase has dried completely, tinted pearl is sprayed on in even coats.

To achieve a real deep luster, after pearl has dried at least a day, spray on two to three coats of clear

HANDY HINTS

A handy item for spray painting is Pactra's new spray booth. This booth is available through hobby shops as a build-it yourself kit that can be set up for use in a couple of minutes. Booth also keeps paint off walls and woodwork

For supporting models while spraying, a bent coat hanger fit inside body and is really handy. To do small pieces such as hoods; tape underside to bent clothes hanger. Extremely small parts can be placed on a piece of masking tape on a side which will not show.

Remember the most important fact in painting is cleanliness. After sanding, always be sure to wash model thoroughly and wipe dry with a lint free cloth. Always spray in a clean dust free area.

After model has dried overnight, small details such as side chrome trim, window mouldings are painted using a small brush. I have found that Testors small bottle of chrome silver works best and looks most like chrome.

FIRST REPORTS

AMT's '40 WILLYS

Ask today's drag racers to vote on their favorite cars and the Willys will be near the top. AMT's newest "Trophy Series" double kit contains the ever popular 40 Willys coupe and the '32 Ford sedan. With a one piece nose hinged at the front for total exposure of the wild blown Olds engine, this car will be a double threat. The raised front end completes the picture of a real drag machine.

I WON

National Champion. Bob Davids produced a winner when he invested ,000 hours of tedious work to create this three passenger fast back

As a direct result of winning the Fisher Body Contest Bob now develops model cars professionally at Revell in Los Angeles

THE FISHER BODY CONTEST... SO CAN YOU!

Half the battle is over once you know how the judges select a winner.

by Robert Davids

I FIRST BECAME INTERESTED in the Fisher Body Contest when two friends, Bill Moore, a commercial artist, and Art Russell a professional model maker at Revell (both are ex-national Fisher Body champions) suggested I enter the greatest model car competition in the world — the Fisher Body Contest. It sounded like fun, and the prizes were great, so I decided to try my hand.

I wrote to the Fisher Body Craftsman's Guild to send me the book of rules and regulations governing the contest and hints how to construct the model.

The Guild also has a monthly newspaper with many building hints available to those interested in the contest. When you receive all the material, read and study everything. Pay particular attention to design. learn as much as you can, from all of this literature. You'll find the design of your model is going to be very important.

In September 1962 I started my Fisher Body model. I bought the best wood I could get, (kiln dried poplar) for the model. I cut and glued it and was ready to go when I realized that the car design was not yet established. This is a mistake all too common to many car modelers — lack of planning; but I learned fast.

Over 200,000 modelers sign up in the Guild each year. If you plan on being a winner, be determined to put everything in the model . . . I did. You may spend anywhere from 500 to 1000 hours on your winning model. Before I finished my car, I had 1000 hours invested in it.

When you get your material, study the Fisher Body score sheet to see where your points are going to come from. Most are going to have to come from design, so plan on spending more than half the time on design. I spent five and a half months designing my entry. This was not constant work, but I did put in over 350 hours on the design alone.

Selecting Body Design

Design is a broad category. Once you've chosen a feasible design — stick to it rather than jumping to what you think Fisher Body is looking for.

Design of my car originated around the three passengers concept. The driver sits alone in the front center of the car for better visibility. Behind him are the two passengers whose seats are angled, to provide extra leg room, along side the driver. This seating arrangement is wedge shaped. From this came the wedge shaped body design, including the 3/4 windshield.

The Guild has six categories in which to enter. Study the automotive trends, and try to figure what is next. Last year it happened to be fast back coupes — so was my model. Picking the right kind of car is the most important step, and a very crucial one. There are really only two categories to think of entering; the "Sports" and the new "Open" category. I took a month to figure out which one to enter, and how I could do in each (before actually designing). I finally came up with the Sports, but maybe next time it will be the Open — who knows? Study past winners and see what they have done. Study how much detail they have put in their cars. Also very important — look at how many winners have full interiors in their cars. Interiors make the car seem more real. My car had a full interior and the extra effort was well worth it. Go ahead and make the steering wheel, the clock, seats, door handles and ash trays, because, believe me, every little detail gets judged — and counts.

Once you decide on the category you are going to enter, take the Rule Sheet that Fisher Body gives you. and start sketching. This sheet provides the limitations in which you'll have to work. Remember you are in this to win, so don't make a few sketches and start building. Make hundreds, the design has to be good! Don't be afraid to go "way out," but do it in good taste. Now that you have a good design (it may take months) you can start a clay model. You can get the special automotive red clay from Fisher Body, price comes with the catalog. Working in the clay will enable you to see what your car is going to look like, and you can see it from all angles. You will be able to shape, carve and sand this clay easily, and maybe change your design when and where needed. I carved on my model every night for three months to make it "right." You may never get finished with your design until the car is actually carved in wood and ready to paint.

When you are satisfied with the design, ask yourself, "Did I leave room for some sort of engine? Can I get my passengers in and out easily? Are my bumpers adequate? How about head and tail lights? Do I have luggage space? Does everything meet rule book requirements?" You may decide that you can pick up some more points in design and want to leave something out to make it look better. From my one-to-one clay model I made a drawing of the side and top from which to build my wood model. After five-and-a-half months, I finally got to start carving wood. I locked myself in the garage, and every minute I wasn't in school I was working on the model.

Starting Construction

It doesn't take many tools to build a model, but it sure helps to have them. You'll need carving tools (if you build a wood model), files, and a good ruler. I took my side view drawing and pasted it on the side of the block and cut around it, using a band saw. I then mounted it on a piece of 3/4" plywood 2 ft by 2 ft, by using two pieces of 1/4" wood doweling. The doweling stuck into two holes drilled in the back of wood. In this way you have a flat, secure surface to work with, and the block can be put on or taken off the plywood any time. The piece of plywood should be big enough so that you can use a surface gauge on it (to measure heights from side to

This is the score sheet the Fisher Body Contest judges used to evaluate my model. Since requirements are usually quite similar from year to year, it should be helpful to anyone planning to enter next year's contest.

FISHER BODY CRAFTSMAN'S GUILD COMPETITION

State Caly Model # 220

CRAFTSMANSHIP:	Possible points	Your car received
1. Scale Fidelity Guild judges measure model cars to see if their dimensions are within the maximum and minimum limitations given on the specification sheet enclosed with the Guild instruction book. An error of 1/16" reduces the score by one point.	50	50
2. Workmanship Each step of the work is carefully examined to see how well it has been done. Is the carving smooth and neat? Are doors, hood and trunk outlined neatly? Are moldings, lights and trim made skillfully and neatly attached?	* (90 or 105)	79
3. Painting and Finishing Are the surfaces sanded smooth, or are they wavy? Are paint separation lines sharp and well defined? Is there sufficient paint on the model, and has it been rubbed down and polished? If grille, moldings and trim are made from wood, how well are they finished? If parts are made from metal, have scratches been removed and the surfaces polished?	* (85 or 70)	73

* Possible points for Workmanship and Painting vary for two types of entries. The judges score sheets permit a total of 90 points for Workmanship and 85 points for Painting to be assigned in the judging of all solid top model entries. In the judging of convertible models and model entries with completed interiors, the assigned points are 105 points for Workmanship and 70 points for Painting. This variation allows more points in workmanship for those Guildsmen who have constructed interiors for their models. Those who have submitted solid top models in turn are given more points for the painting and finishing of their model tops and window areas.

DESIGN:		
4. Originality of Design Is the design of the model car projected into the future with some change in design concept, or is it a copy of a present day car with a few original details? Is it out of date? Is it freakish in design?	92	92
5. Artistic Merit Is the overall design pleasing? Are the details pleasing and do they help the overall design? Does the entire model have the proper balance and proportion? Is the color scheme in good taste? Are the lights, grille, moldings and trim in the proper proportion?	72	65
6. Practicality of Design Do bumpers or reinforced grilles offer protection for lights and sheetmetal? Is it a practical, usable car, providing enough space for passengers, enough luggage room, entrance room, visibility and the like? FOLLOW THE SPECIFICATIONS.	61	55

side), and also put reference points on which to put station lines.

From here you start hand carving, using your drawing and clay model as guides. Carving goes pretty fast. I took about a week and a half to carve the exterior of my car

Interior Preparation

To make the interior I first carved the car as if it were to be a solid model, leaving the top and windows on the block In constructing the top and windows, I primed, sanded, and painted these areas to get a smooth surface and to seal the wood, than I made a plaster casting of the top of the car I then took the plaster casting to a friend of mine who has rigged a vacuum former in his garage. He showed me how to use it, and I spent a day making tops and windows out of 1/16" Plexiglass, until I got one that was perfect. Next step was to carve off the top and hollow out the block for the interior I carved all the way through, and made a plate for the bottom out of 1/8" Masonite. Seats would set on this plate. Next I carved the dash and inside door panels. The seats were made out of clay, actually in the car, to get a perfect fit. Each of the three seats were then taken out, individually I made plaster castings of each and molded them using epoxy resin

Floor rugs were cut from chiffon velvet and fitted into the car. The chrome "goodies" inside were made from brass, then chrome plated. *DON'T TRY TO FAKE CHROME* — you will lose points. Nothing looks like chrome except real chrome Some of the items I had chrome plated included: steering wheel, foot pedals, air conditioner vent, head rests, part of package tray, rings around instruments, console, and rim around the floor rugs. (The chrome job cost about $8.00) Before chroming the pieces, make sure all scratches or file marks are buffed out, because the Guild will take off points for each scratch. After the interior was painted and finished (250 hours) the plexiglass top was fitted, guled and screwed in place

The window area was lined with masking tape to avoid scratches. I then puttied the seam where the top and body matched (a good all purpose putty is Duritite surfacing putty;. Then this whole area was primed and sanded many times.

Next to be built were the bumpers. They were filed out of brass and made to fit in little slots and then chromed. If you make them fit snug before they are chrome plated, the thickness of the chrome and the paint when the car is painted, will make it a tight fit and you can push them in on the final assembly

Wheels were next to be made. I knew they had to be good because they are worth the most points on the craftsmanship part of the score sheet. Mine were made from brass and chrome plated. I turned the outer rim of the wheel out on a lathe and made it fit into the free tires that Fisher Body sent to me. An Allen screw was designed into the hub for looks and to mount the wheel to the body The hub was also turned out on a lathe, cutting off part of the Allen screw head for appearance. Each wheel was to have 12 fins, and that meant I had to make 48 fins exactly alike. For this I cut 1/4" square pieces of .040" brass and tin soldered them all together to make a one piece bar I had the bar milled to the shape I wanted the fins. Then I heated the bar to disassemble it into 48 pieces again. I then filed the soft solder off, and cleaned all of the fins. For the final assembly on the wheel I had a small jig machined out of aluminum to hold all the little parts together, so they could be silver soldered. The finishing touches were filing, buffing, and chroming. Chroming the wheels cost $4.50.

After mounting the wheels, painting is the final step. Pick a color to complement the car. I mixed a soft, subtle green lacquer with silver and pearl and came up with Platinum Pearl Green. I sprayed 15 coats, sanding after each to make a good job. Use rubbing or polishing compound to shine, then wax

Explain Your Reasoning

After the model was finished I wrote a paragraph on the unique features of my car You have to explain how everything is supposed to work. The judges won't try to figure it out, and if they do, they may not figure it right, so be sure to include this explanation, you get points for it. In my explanation I told how the headlight covers open electrically, how the whole top raises hydraulically for entrance and exit, how the ventilation system works, where the engine is and what type it is, where the luggage compartment is, and even how to change the tire because of the unusual hub

Now remember, all of this has to be done before the deadline. Although I started nine months earlier, I didn't finish until the last day. Then came the long wait

The telegram that notified me that I was the State and Regional Winner, which entitled me to $150.00 and a trip to Detroit, actually opened up an entire new way of life for me. I am now working in the Revell model shop, and am deciding when and where to spend my $5,000 first place scholarship.

From miniature models — my future is now king size !

Hundreds of sketches, pounds of clay, and months of thought went into the design of this car before the first wood carving tool was ever picked up. Once completed, a written explanation accompanied the car to Detroit.

GREAT CUSTOMS
. . . AND HOW TO

TALL "T"

Tall "T" coupes have gained great popularity recently for building rods. This fact is evidenced by the increasing number showing up at custom car shows.

Art's Custom Shop did the work on Ken Kveseth's tall "T" from San Diego.

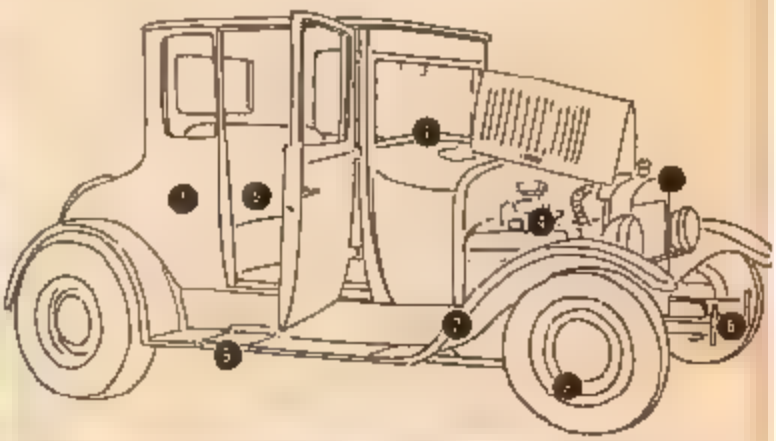
Ken's car can be built using two AMT '25 "T" coupes. The roof of one coupe is cut off and discarded. The second coupe has its top removed just above body lines. This top is grafted onto the first coupe. Cut carefully as it will ease the problem of mating the two tops together. For further help on making your tall "T", refer to Styling Tips: Making a Tall "T" coupe in this issue of Model Car Science.

Top cloth can be made using white velvetine ribbon cut to shape of roof.

A bent pin can be used to make the crank.

Opening doors add interest and detail to a model. To make open doors on this car follow the article on Hinging Early Ford Doors in the October, 1963 issue, page 37.

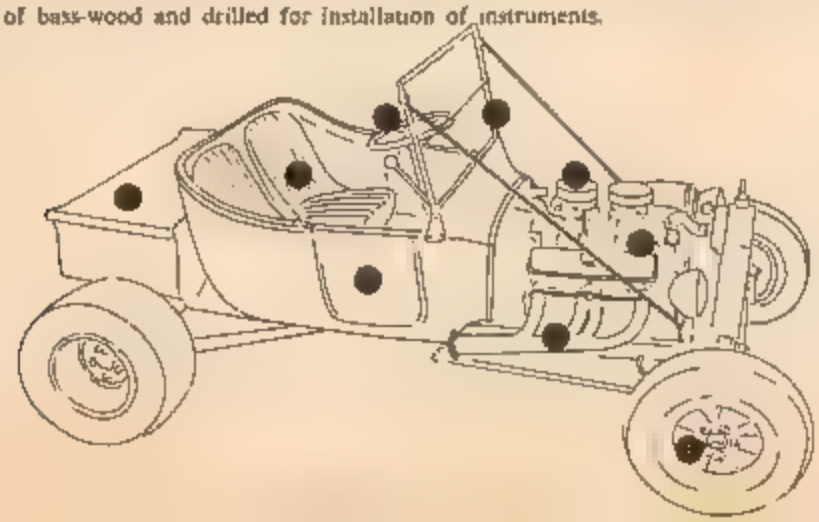
1. Body—two AMT '25 "T" coupes
2. Fenders and frame—AMT "T" tub
3. Radiator shell—AMT '25 "T"
4. Engine—Revell's Buick. no four barrel carb set up is available for this engine.
5. Seat and interior—AMT "T"
6. Crank—made from a bent pin
7. Dash—AMT '25 "T" or builder's own custom design
8. Tires and wheels—Revell's big and little roadster tires mounted on AMT's rims painted
9. Step plate—AMT Ala Kart kit
10. Ken's car is painted Chevy silver grey.



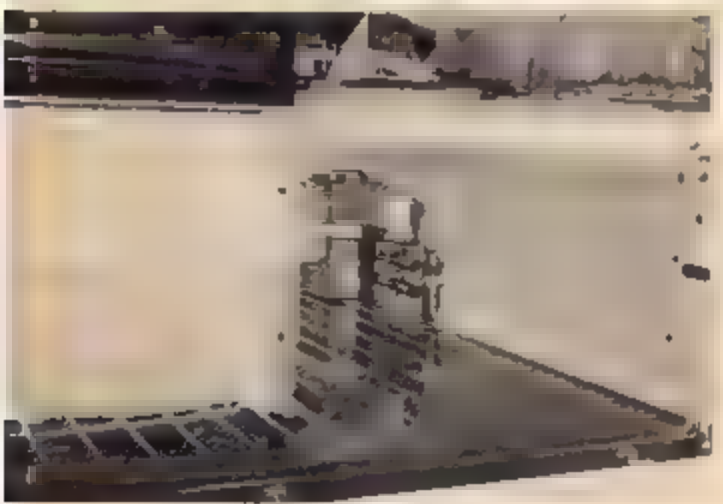
and HOT RODS
BUILD THE MODELS

COVER CAR

George Bochme of Santa Monica, California, took two years to build his red "T" roadster pickup, but a fine looking model could be built in several nights and would make a nice addition for model roadster fans. This model can be built in one of two ways. By using Aurora's '22 "T" Ford kit or with parts from the Monogram Big Rod and Big Deuce kits. Only problem in using the big kits is that there is no Olds engine supplied for power on this car. A Chevy or Pontiac could be substituted very nicely however. If Aurora's kit is used, bucket seats from AMT's '25 "T" roadster can be used if trimmed down slightly on the sides and set all the way to the back of the roadster. Regardless of methods selected for body construction, dash can be made out of bass-wood and drilled for installation of instruments.

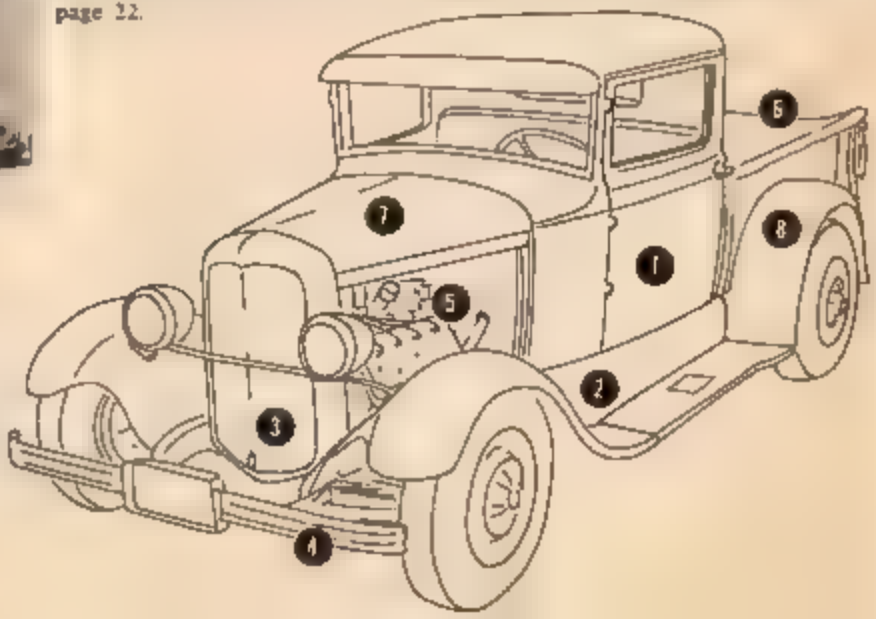


1. Body, frame, radiator shell all from Aurora's 22 "T" kit.
2. Engine—Olds from Revell Beatnick Bandit or Bob Tindles Orange Crate
3. Headers—Revell's 421 Pontiac or AMT's 421 Pontiac
4. Wheels—AMT '64 Ford Galaxie XL500 convert kit.
5. Seats—AMT '25 "T" kit
6. Windows and Supports—Aurora '22 "T" kit
7. Steering wheel—AMT '25 "T" kit painted wood tan to simulate wood.
   Chrome spokes in wheel can be made either by using chrome tape or painting chrome silver
8. Carbs—Dual Quads from AMT 421 Pontiac from accessories kit.
9. Bed—AMT '25 "T" kit squared off rather than flowed into body as normally is done.



The GRASSHOPPER

A '32 Ford this month: this time of the more familiar small er scale and a pickup instead of a roadster. The Grasshopper was built by the Alexander Brothers Custom Shop in Detroit. The basis for this fine display piece is the AMT '34 pickup — but with minimal rework it can be made into the two-year-older model. For the floor of the pick-up bed, check "Wood Decks for your Pickup" in the October MCS, page 22.

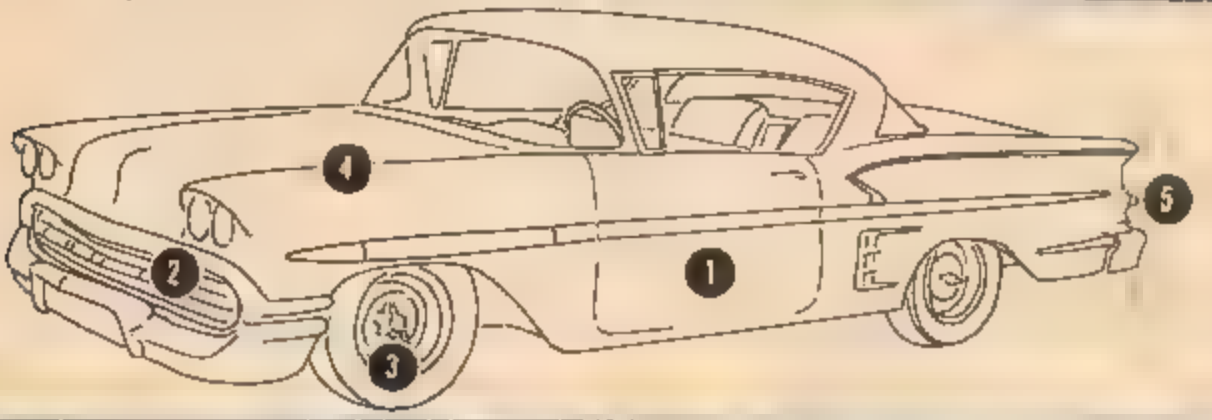


1. BODY — AMT '34 Ford pickup.
2. FRAME — The AMT pickup again.
3. GRILLE SHELL — From Ala Kart kit, though it will have to be modified to sit vertically.
4. FRONT BUMPER — '32 AMT Ford kit.
5. ENGINE — Flathead V8 from AMT '49 Ford kit.
6. BED — Made from basswood strips lacquered.
7. HOOD — AMT '34 pickup with sides removed.
8. REAR FENDER — AMT Ala Kart kit or Model A.

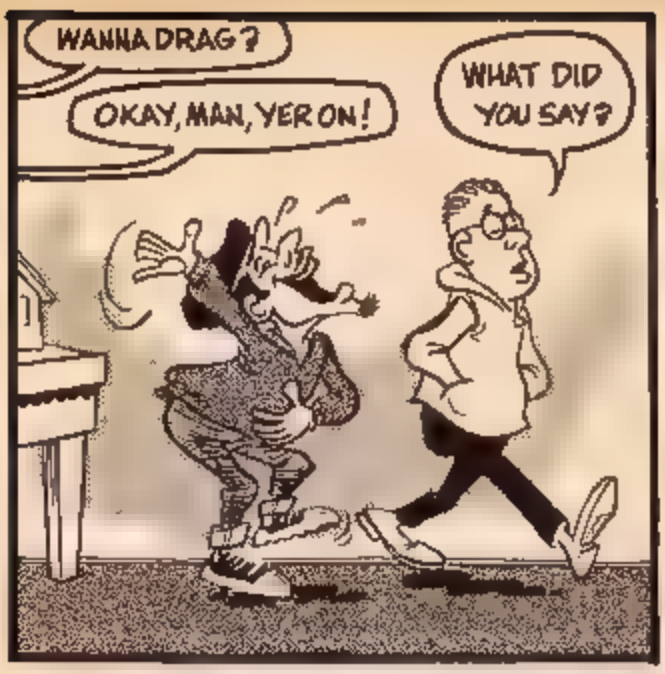
CHIC CHEV

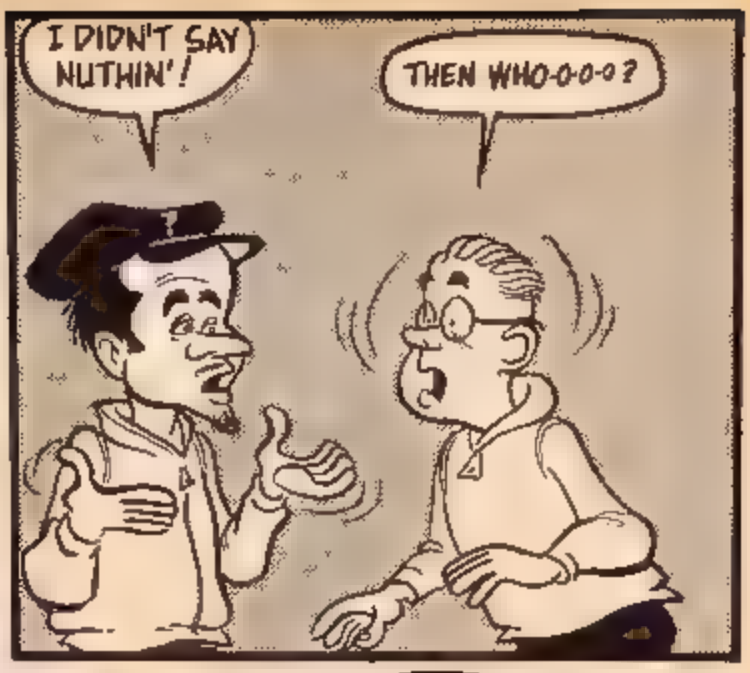
The tried-and-true '58 Chevy lends itself well to customizing. This is Joe Rosilez's Impala hardtop which boasts moderate restyling -- easy to simulate in model form from AMT's '58 Impala kit. Actually, the most difficult task here is the grille. To make the tubular center bar use two Ala Kart exhaust headers. Cut each off square, then bevel one end of each making sure the angle follows the contour of the grille cavity. Cap the ends with bullet taillights from the Revell Custom Taillight accessory kit.

1. **BODY** — 1958 Chevy Impala kit from AMT.
2. **GRILLE** — Pieces from excess "runners" in any chrome accessory.
3. **CHROME WHEELS** — From the Impala kit again or the Revell '56 Ford pickup. Knock offs from Aurora's XKE Jaguar kit.
4. **ENGINE** — AMT '57 Chevy kit.
5. **TAILLIGHTS** — Cadillac-type bullets from Revell Custom Taillight accessory group.
6. **RESTYLING** — The car is nosed and decked, and trim is removed from tops of the front fenders and from the sides.



McMODEL The MASTER BUILDER





McMODEL SALUTES:

The CRUSADERS
SANTA ANA, CALIF.

B&J CUSTOMIZERS
FREDERICK, MARYLAND

ROADRUNNER M.C.
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HEWLETT-WOODMERE MODEL ASSN.
HEWLETT, L.I., N.Y.

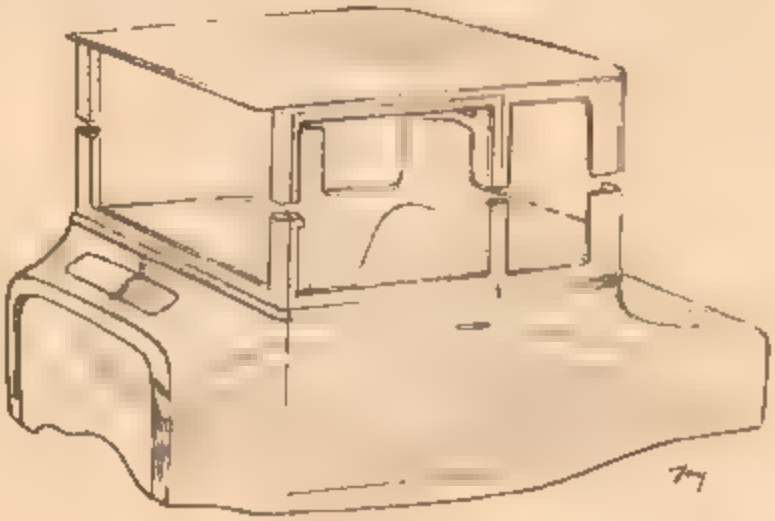
Styling Tips

BUILDING A TALL "T" COUPE

Tall "T" coupes are becoming quite popular at present among rod builders, as noted by the increasing numbers showing up at car shows.

AMT makes a "T" coupe, but theirs comes in an already chopped version. Making a tall "T" from AMT's chopped coupe is not difficult but it does require time and patience. This project will require a couple of nites of work and two AMT coupes.

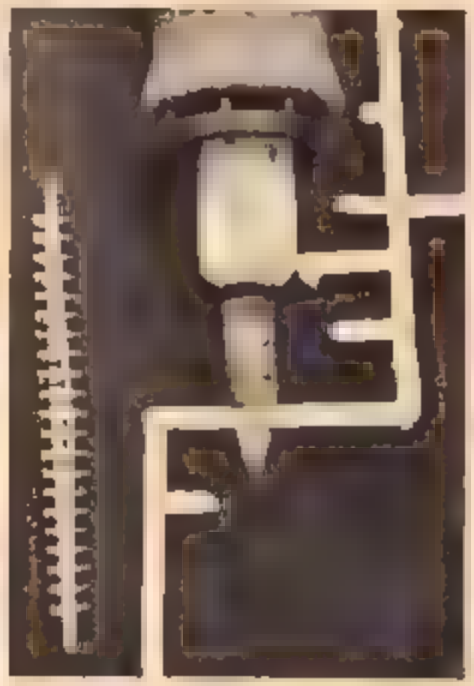
Take one of the coupes and cut top off right at top of door posts, cut evenly and carefully with a razor saw, roof is discarded. Second coupe, cut top off by cutting posts just above body line on coupe. Cut this part very carefully as it saves time later when aligning top. Set top from second coupe on posts of first coupe, do not glue at this time. Check alignment, and levelness, make sure roof sets level. After top is squared up by filing posts that might be too long causing top to sit at an angle, glue into position. Set car aside to completely dry for at least eight hours. When glue has completely dried, it is time to begin to work posts to a cherry condition. Use plenty of putty and fill any cracks where posts are joined together. After putty dries file and sand until there is no evidence of where posts were joined together. Several applications of putty will be required to completely fill this area. Following this procedure door lines will have to be recut in the joined area, this is done with a sharp X-Acto knife. Be very careful when doing this not to let knife slip, a straight edge would be highly recommended.



CUSTOM GRILLE

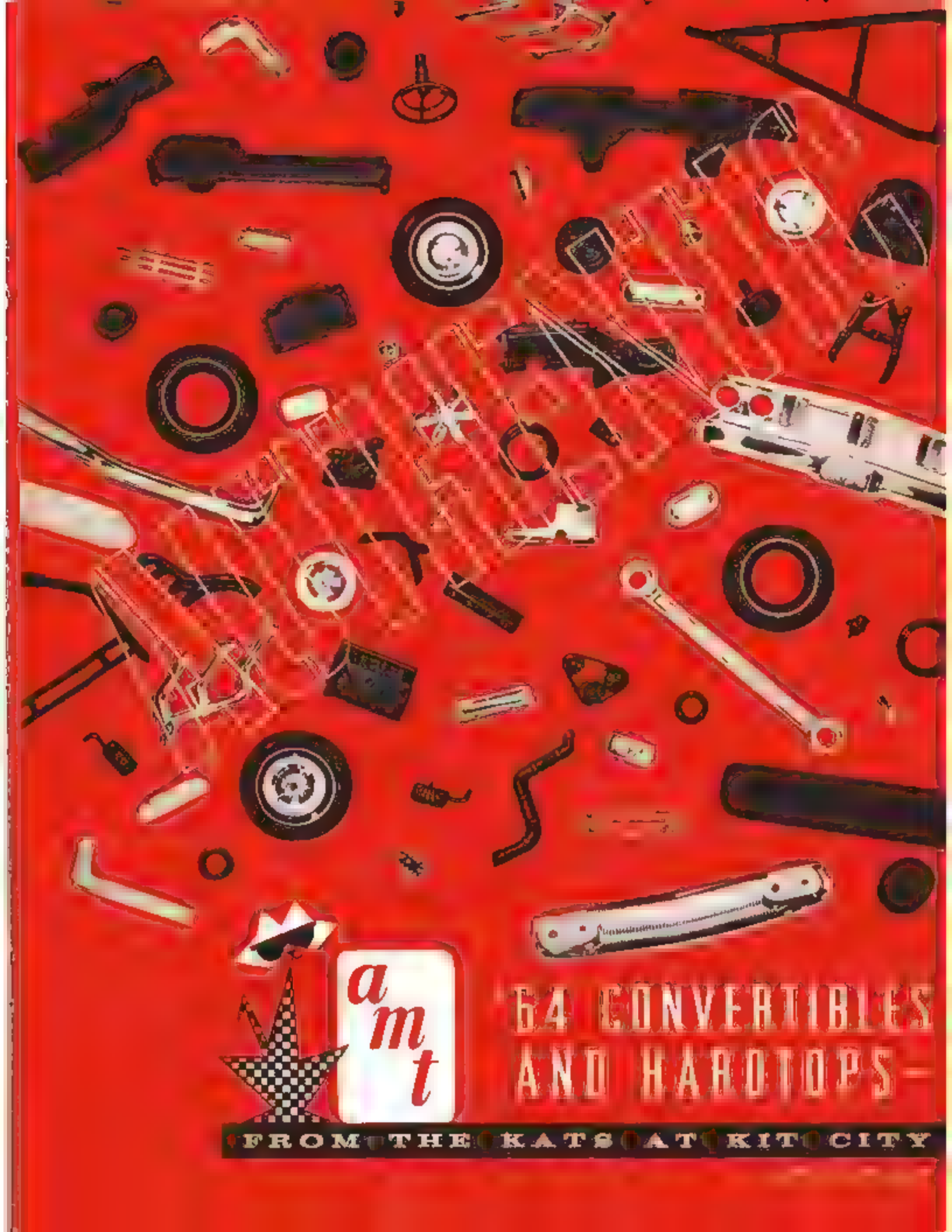
There are many custom grilles on the market including this one from the Revell Custom car parts kit. The biggest problem concerning these grilles is just how to use them. One of the most accepted ideas in real cars is the oval cavity with a floating type grille. This is about the easiest way to make such an installation. With an oval opening the choice of grilles is wide open.

1. These parts are all you need to have a customized front end on your model. After you have completed step two, mold the grille shell to your model and install the grille.



2. Using your Unger electric pencil, heat the piece of plastic sprue and bend to shape around the grille.

continued on page 35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64 CONVERTIBLES
AND HARDTOPS—
FROM THE KATS AT KIT CITY

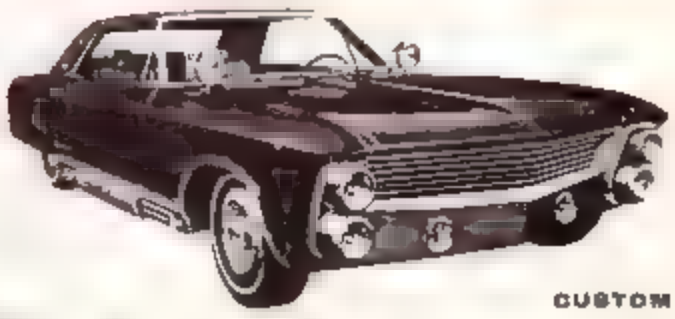
THE KITS FOR THE KATS WHO WANT THE REAL THING!

There's more to build . . . and more reasons to build! . . . with 1964 3-in-1 Customizing Kits from AMT. With complete stock, custom, and competition versions in every kit, you build everything from the mildest to the wildest. Extra chrome, too, for engine, chassis, and body. All AMT top quality. And for 1964, more great new features. Working lights on the Impala S/S and 500 XL! Scale drivers for the Imperial and Continental. Racing trailer with the Sting Ray! And many, many more features.

Best of all, you know you're building the *real thing* with AMT. The nation's top customizers guarantee that AMT custom models are restyled authentically. Customizers like the Alexander Brothers, George Barris, Bill Cushenbery, Dean Jeffries, and Gene Winfield, are exclusively on AMT's team—and yours! And what about racing? Well, nearly 20 outstanding speed equipment shops consult only with AMT to be sure that competition and racing versions of AMT models are identical in every detail to the big ones that took the checkered flag.

So join the millions of modelers who build the real thing . . . build AUTHENTIC 3-in-1 Customizing Kits from AMT!

STOCK



CUSTOM

COMPETITION

PROFESSIONAL PAINT PUTTY & PARTS!

. . . AND A NEW SERIES, TOO!

up's complete without 'em!

amt

continued from page 30

CHROME FENDER CUT-OUTS

Sometimes the most difficult looking custom idea is the easiest to do. Many of the top real custom cars have fancy wheel openings so why not model cars? One word of caution, however, on this styling idea: go slow. If you try to hurry the plastic will melt away, so remember . . . slow.

1. After holding a lag bolt over the flame of a gas stove until very warm, with either a vise grip or regular pliers, gently rub the fender.

2. Sand the indention smooth so that when the chrome is applied imperfections will not show through. To insure a good curve, wrap the sandpaper around a large rattail file or other round object.

3. The chrome is from Revell's upholstery kit. First cut a section from the sheet large enough to cover the area. After peeling off the protective paper on the back, press into place.

4. Carefully trim around the edge with an X-Acto blade, or a razor blade and, presto!!!, chromed wheel inserts.

ASYMMETRIC STYLING

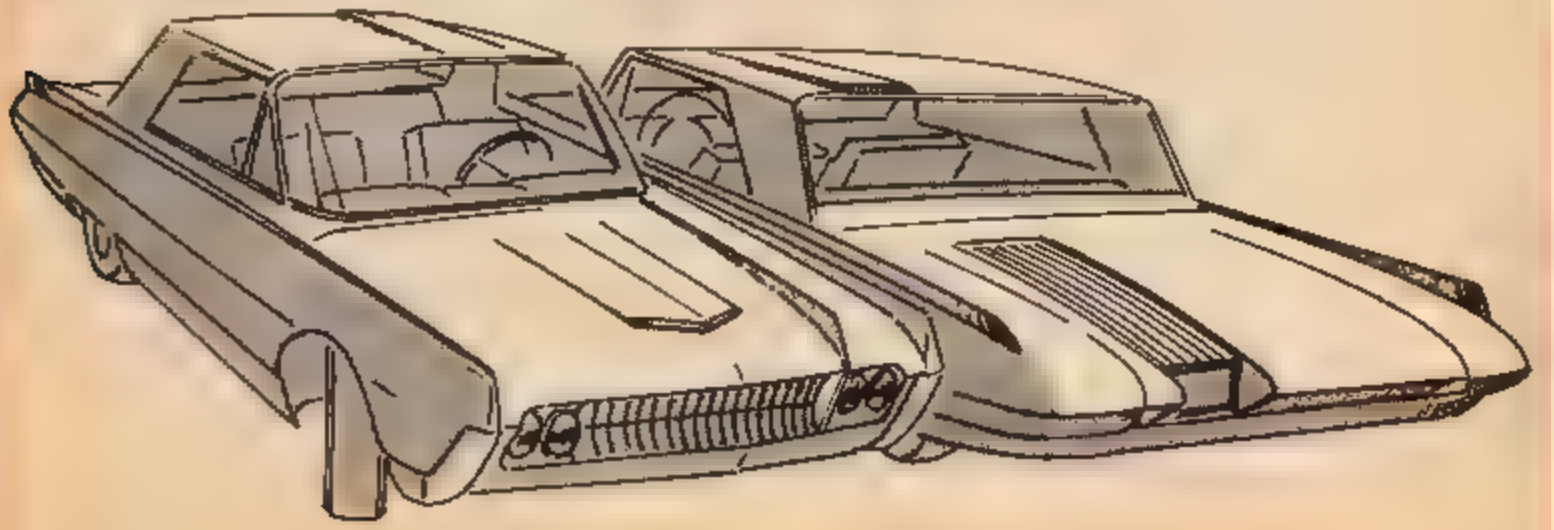
Asymmetric styling is where the body of a car or truck has the addition of an off-center body crease, ridge or scoop to bring forth a neat, farout design.

Asymmetric styling can further enhance the beauty of your model, by using it in the styling of grilles, taillights and headlights. One example of asymmetrical styling in 1964 cars is the Chrysler Imperial with the rear license plate set off to one side rather than centered as normal.

To build up an asymmetrical ridge on your model, start with a piece of very thin scrap sheet plastic. Cut piece about one sixteenth inch in height and the length of part of body on which it is to be placed. Glue the strip upright on model and apply putty after glue is dry. Roll the putty with your fingertips to rid it of its rough texture. Let dry completely then sand smooth with #600 wet and dry sandpaper, prime, then paint.

License plates, grilles and headlights can all be asymmetrically styled.

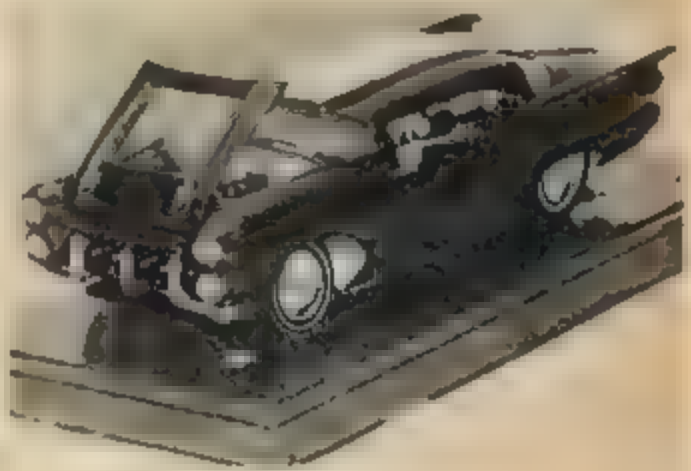
Many ideas may be accomplished by the modeler's imagination.



CONTEST WINNERS

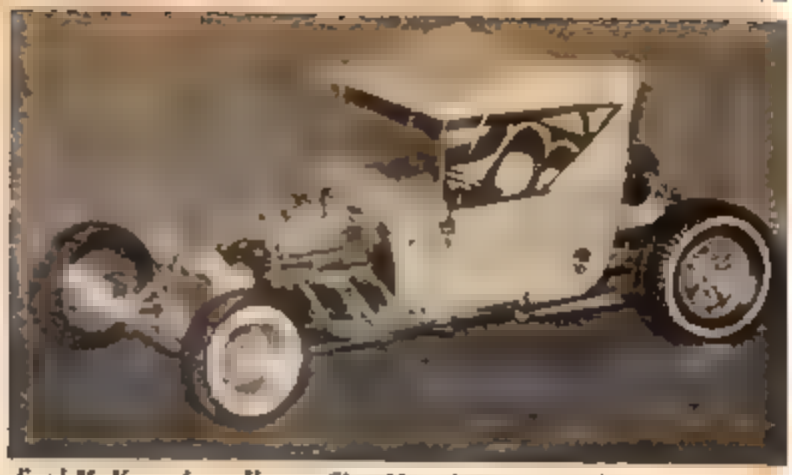
Ten coats of metallic gold, thirty coats of candy apple red and ten coats of clear paint coat this gleaming '29 Ford custom built by Jack Herndon, from Sedalia, Mo. Completely sculptured and moulded with body putty, cardboard and wire, body has also had a scale 14" sectioning.

Using a jet model body modified with body putty and scrap plastic, Jim Walker, London, Ontario, rates a very honorable mention for being first to enter a replica of the Breedlove jet car in the MCS contest.



Starting with an AMT '57 Ford, William Bright from East North Port, N Y. chopped the roof four inches and split the rear window glass into three sections. Engine is completely wired.

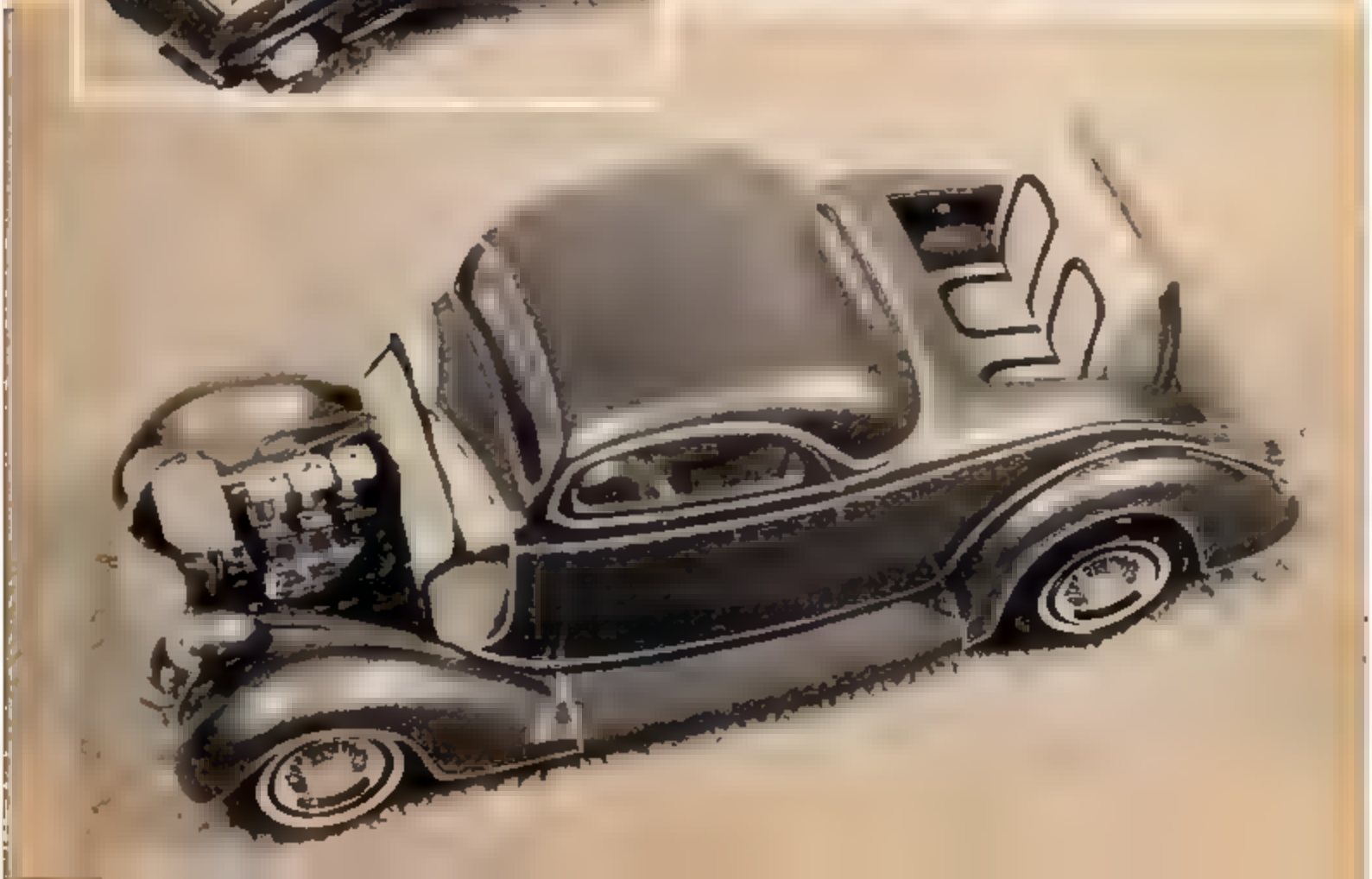
From Gurnee, Illinois, Greg Stephens constructed this car from a Double Dragster front nose piece. A wired '58 Chryder mill was added



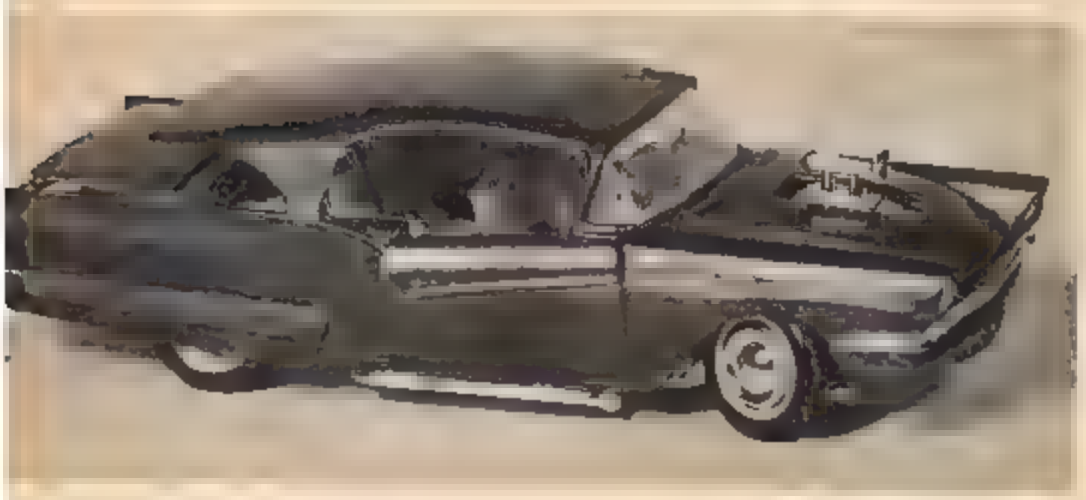
Fred M. Vane, from Kansas City, Mo., shows one of the many changes that can be made with Monogram's Big T

This '25 T woody built by Don Peters sports opening doors, ignition wires and carb linkage, bullet headlights, air horns, custom dash and a surfboard.

The double entry shown below is from Dan Pettey, New Philadelphia, Ohio. The '63 Custom Corvette has a well detailed interior plus opening doors and trunk. Proving that modeling takes a definite talent, the workmanship on the '36 Ford is exceptionally outstanding.



Bob Stevens bases his dragster body on the AMT streamliner, but little remains of its former appearance. Blown Chrysler is completely detailed, as are spot brakes, steering.

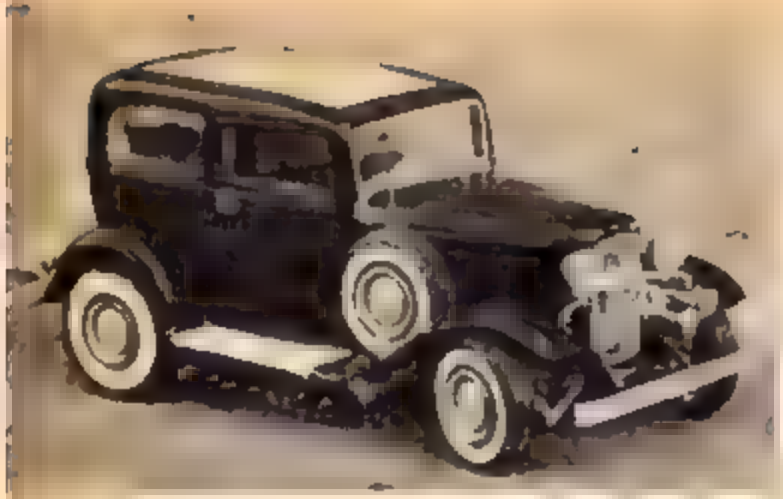


Workable steering, opening doors, deck and hood, complete lighting system and upholstered bucket seats, are only some of the features of Mike Palmieri's '57 Ford Fairlane 500.

Pete Lang, from King of Prussia, Pennsylvania, sends us a photo of his brilliantly polished '57 Chevy.

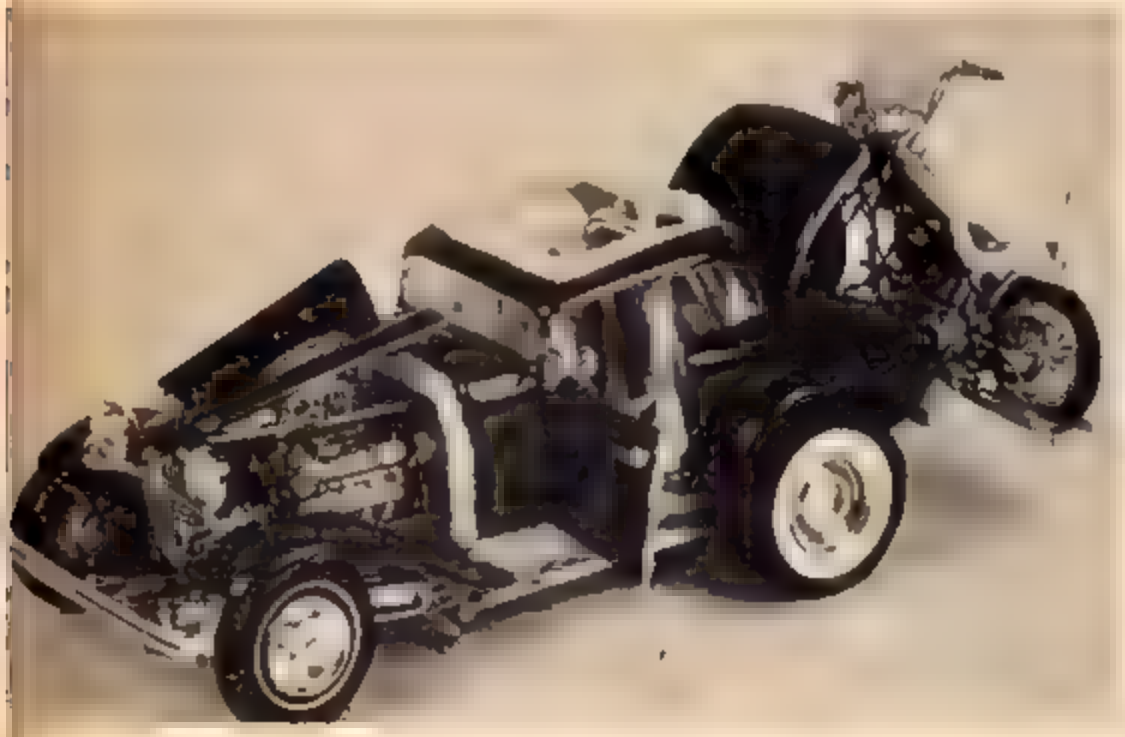
Larry Gabor whipped up this version of a '63 StingRay convertible, featuring much frontal rework, on his Lexington, Ohio, cardtable.

THIS IS STEELE SHULL'S FIRST MODEL CAR ATTEMPT. IT TOOK HIM 2 MONTHS TO COMPLETE HIS AMT '59 'VETTE BASED CUSTOM



Roger Jacobsen spent five months completing his '32 Ford sedan. Two AMT coupes were used, as well as balsa wood and putty.

Kent Wallace from Maryland has come up with the paint job to end 'em all; multi-colored glitter that seems to change hue.



A Revell H-D cycle rides the back of Ron Walts's AMT '32 Ford like a dinghy on a cruiser. The fine street rod is completely detailed with even working throttle.

a MODEL CAR SCIENCE *Contest*

FOR MODELERS EVERYWHERE . . .

Each month the editors of MCS will select from PHOTOS submitted, the top model car. It will be shown on these pages and its owner will receive a $25 U.S. SAVINGS BOND

SEND A PHOTO OF YOUR PRIZE MODEL TODAY TO:

MODEL CAR SCIENCE
Contest Editor
171 So. Barrington Pl.
Los Angeles 49, Calif

You may submit as many entries as you wish. Send photos only, please. NO KITS. Include your name, address, age and information on how you built the model. Only CAR models are eligible. We cannot return any photos submitted.

FOR STRAIGHTAWAY COMPETITION, TIMED DRAGSTRIP AND THE CIRCULAR TRACK, THIS NEW CAR SHOWS ALL THE EARMARKS NEEDED FOR THE BEGINNING OF A GREAT NEW HOBBY-SPORT.

STEPPING ON THE GAS

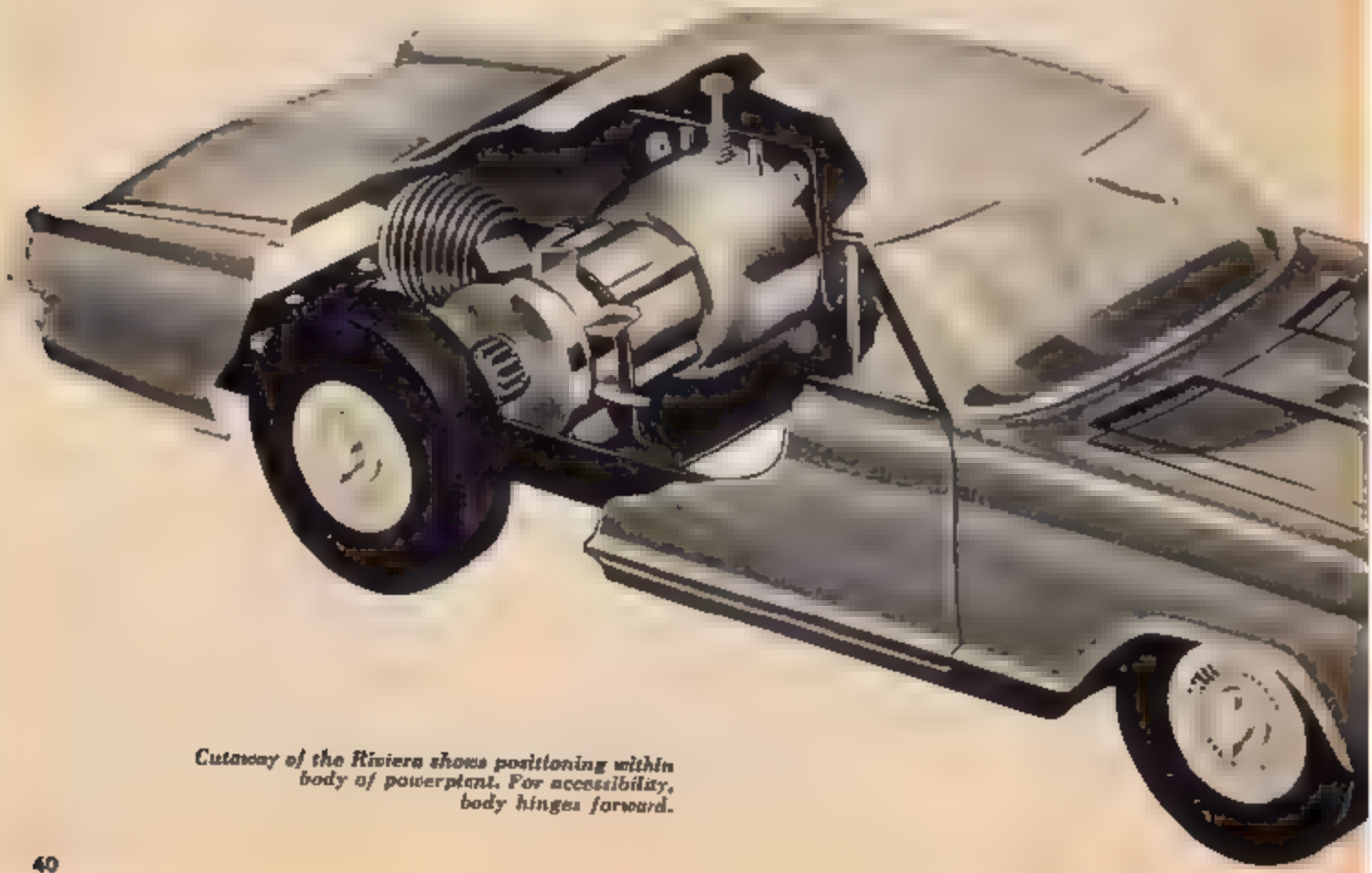
Branching somewhat far afield for Model Car Science without actually leaving the world of cars was a decision the editors took some time to make. As far as the average reader of this publication is concerned, there are slot racing models and there are models built solely for display. If we had asked them, we would have been told there *isn't* another field into which one may delve without leaving the world of cars behind. Display cars and slot racers, period.

But, believe it or not, there is yet another branch of miniature car-dom that remains to be tapped.

Witness a well-detailed, 1/20th scale model of Buick's famed Riviera running at a speed that would put even slot cars to shame. And again going beyond slot cars, this Buick roars like an uncorked Nascar track car, emitting fumes not unlike those so much in evidence at Indianapolis on Memorial Day and as it leaves the line spinning rear tires gives off the same acrid odor and billows of rubber smoke that full-sized dragsters do.

The strange machine is not strange at all. It's simply powered by an internal combustion engine. No wires, slots or power-conducting tapes; just gas up, tune, and the Buick is off with a roar.

All this is nothing new to old-timers in the model car field. All of today's slot cars were preceeded by gas powered racers that circled a specially equipped



Cutaway of the Riviera shows positioning within body of powerplant. For accessibility, body hinges forward.

The Cox Buick requires two kits for operation; car itself with necessary components, and a performance package with fuel, battery, tether line and anchors.

rail track; each lane being fitted with a raised rail to which the cars were secured. Then too, there were those who preferred the tethered jobs — and still do, as a matter of fact — which roared around a giant circle like a stone being swung overhead on a long string. These latter were much in evidence up until a few years ago, and speeds in certain engine displacement classifications were up in the 120 *actual* mph range

The big drawback to rail and tether racing was the cost — the precision-built 2-cycle model airplane engines used running up as high as $35.00 per copy, to which would have to be added the all steel chassis and cast bodies that were so prevalent

Model car fans of late seem to have forgotten this exciting facet of the hobby; that is, they did until the L. M. Cox Manufacturing Company — producer of the famous Thimble-Drone line of engines — came back with an all-inclusive gas car kit for under $10.00! And the car is available ready to run, after a few moments spent in affixing the chrome plastic bumpers and grille, the

Quick-snap latches allow body to be tilted for engine maintenance, hook-up of wires for starting. Once engine has fired, wires are removed and body shut.

windows and car interior. But all-thumbs enthusiasts will be glad to know that the engine is mounted, the gears properly meshed, the chassis assembled, and in general a car that is ready to charge as it comes from the box.

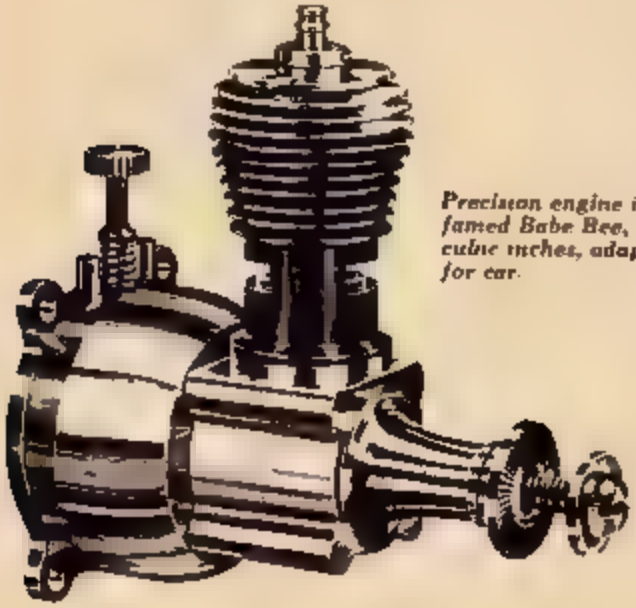
For another $3.49 Cox offers a Gas Power Racing Accessory Kit which includes a dacron tether line, engine fuel, battery, wire clips, fuel filler spout, and several anchor pins. The .049-inch engine in the car is glow plug-fired, eliminating need for a complicated ignition, points, or what have you. To start the engine you fill the fuel tank, connect the battery leads to the spark plug-looking glow plug, spin the rear tires until the engine fires up, disconnect battery, and let the car go. And go it will, up to 40 mph reports the brochure accompanying the kit, but what seems much nearer 50 mph according to MCS's handlers who spent considerable time investigating the operating potential of the Buick.

The dacron line in the kit measures 130 feet in length, plenty for setting up a drag strip. The line is put through two eyes in the chassis, secured at each end with the anchor pins provided. At the far end of our own drag straightaway we rigged up a bridle, shown in the sketch, which would allow the car to be stopped without harm. Without such a stopping method, and if the user were short on baled cotton, the car would most certainly be destroyed upon reaching the further anchor pin.

Several runs with the car served to break-in the engine, and each run was slightly faster than the one before. It was found that four runs could be made on a single filling of the fuel tank. Each start was accompanied by the widest wheel spinning it has been our pleasure to see anywhere but on a full-size drag strip. A drop or two of fuel inadvertently spilled on a rear wheel probably accounted for much of the slippage and the clouds of blue smoke that followed the Buick as it hurtled along the 100 foot strip.

Tiring of single-car drags (we wished heartily for several more Cox cars so we could hold true competition events) we fastened the bridle attachment and set the car to running in a thirty-foot circle. A single tanking-up permitted some twenty laps. Needless to say the MCS staffers had a heartening ball in trying different needle valve adjustment settings in attempts to out-tune the others.

The whole operation was a delightful break to those who deal exclusively with model cars, up to now either electrically powered or too delicate to handle. Cox has succeeded in bringing the price of an *engine* — rather than *motor* — powered car down to a respectable level that should see this ancient but lately-overlooked aspect of model car-ring raised again to one of some prominence



Precision engine is Cox's famed Babe Bee, with .049 cubic inches, adapted for car.

The Sports Racer Accessory Kit includes everything needed to get well-detailed Buick going, sells for $3.49.

ENGINE EXPLODED VIEW

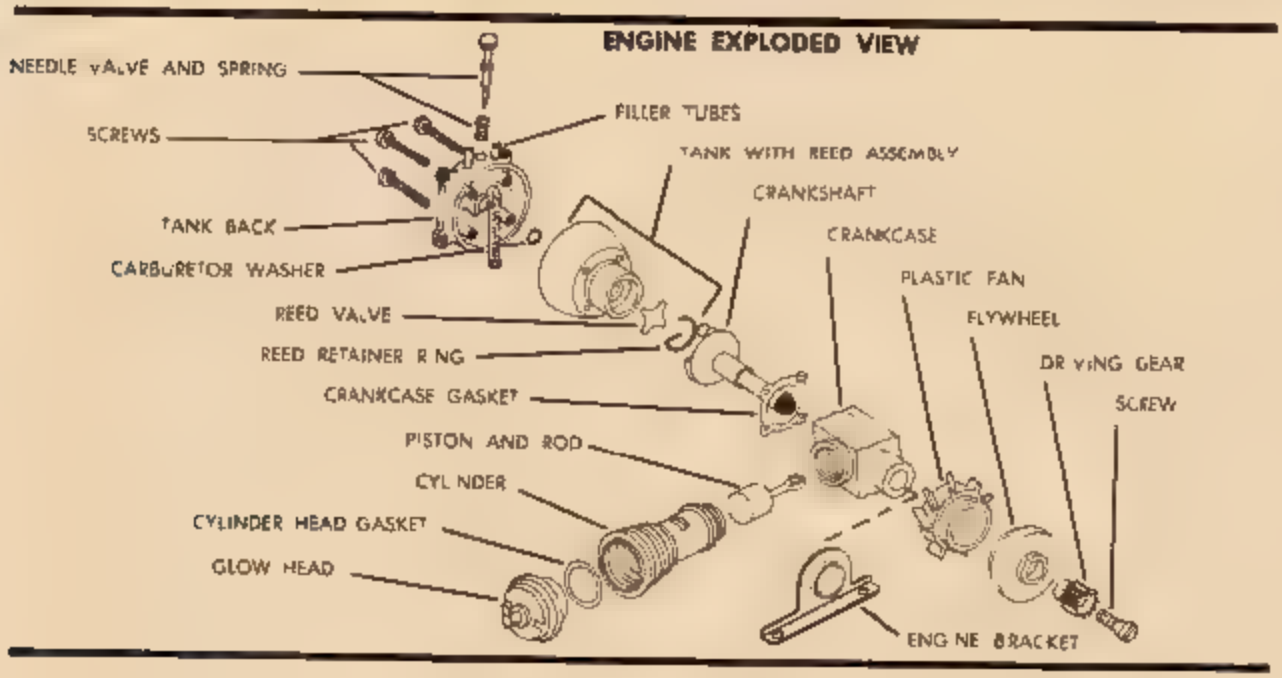


TABLE TOP RACING SECTION

PHOTO CONTEST Each month MCS will award valuable prizes to the readers who submit the best photos of slot racers in action. Send your photos to: Table Top Photo Contest, Model Car Science, 171 Barrington Pl., Los Angeles 49, Calif.

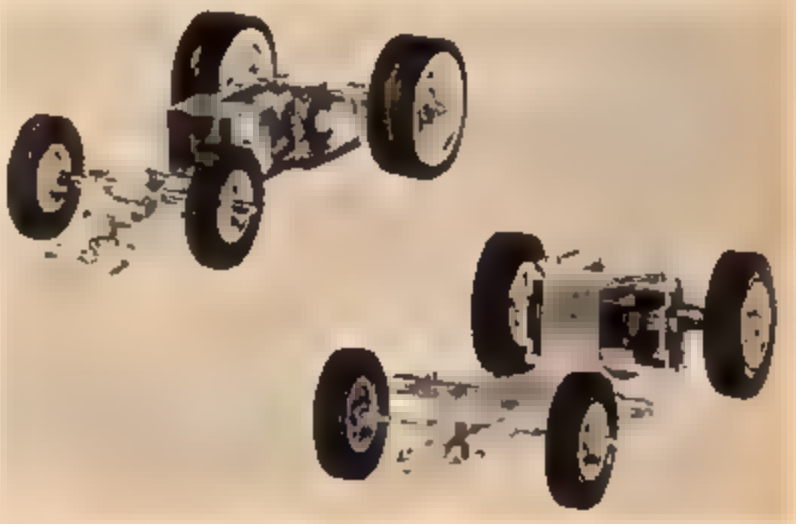
THIS MONTH'S PHOTO CONTEST WINNER IS WALTER P. PETER OF MILWAUKEE, WISCONSIN.

New SLOT RACING PRODUCTS

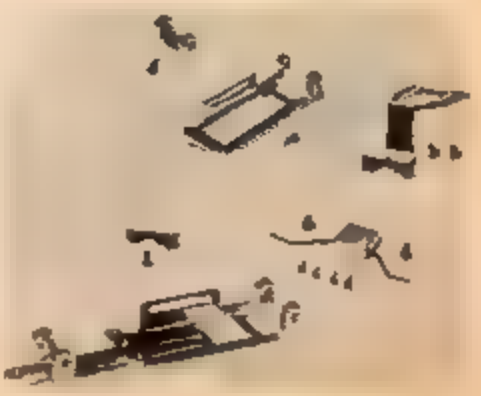
Strombecker has added two new cars to its stable of 1/32 scale racing machines. The cars, the world's champion BRM and the Dragster, are both available in Custom kits and as ready-to-race built-ups. The BRM features a complete belly panel; four brass bearings; interchangeable pin or rudder steering; new ½" racing wheels and vacuum plated chrome accessories. The "Silver Spook" and "Silver Ghost" Dragster features an Acrylonite Butadiene Styrene frame; new 1/16 slick tires with mag wheels on the rear and 5/8" racing tires with spoked wheels on the front. The Dragster can be built with open or closed front, and, like the BRM, it comes equipped with a rugged 12-volt motor.

An assortment of the most popular spray-on racing colors in easy-to-use aerosol containers is now available from Strombecker at 69¢ each. Designed especially for use on slot racing cars, the colors include: British Racing Green, German Racing Silver, Italian Racing Red, American Racing Blue, International Racing Black, and Indianapolis White. A base primer is also available.

Containing all the tools necessary to service, maintain and repair racing cars and tracks, X-acto's Pit Kit puts everything in top operating condition and puts more fun and excitement into indoor racing. For only $4.95, hobbiests can give their cars the attention required for peak performance.

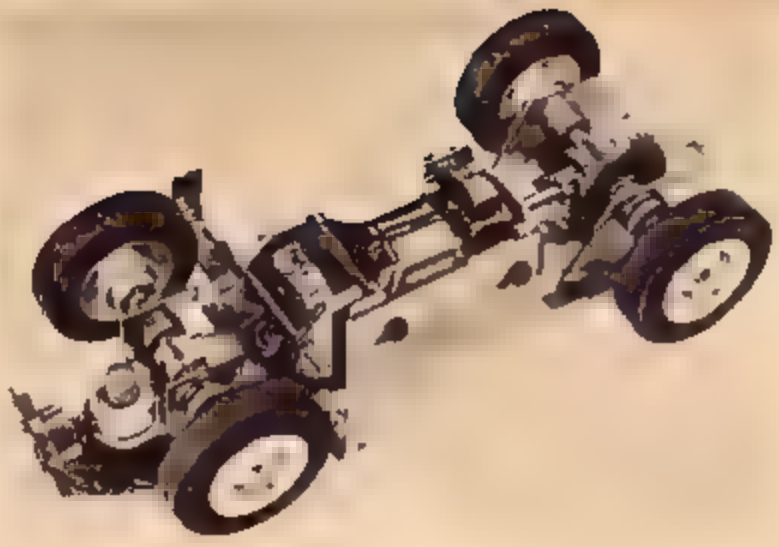


Newest add-ion to the Dynamic Models Inc. line of slot racing accessories is a newly designed chassis that puts the beginner in the expert class with only a screw driver as a tool. All the cast aluminum components are completely interchangeable. Want to change motors? Just fasten a new rear motor mount to your connecting "tongue." Want to try a sprung wire front end? The "DynaMite" chassis offers this interchangeable feature. Two screws give you complete adjustability for all 1/32 and 1/24 body lengths. No bending, soldering or cutting is required. Want to add weight? Lead weights available that mate to the connecting tongue with one screw.

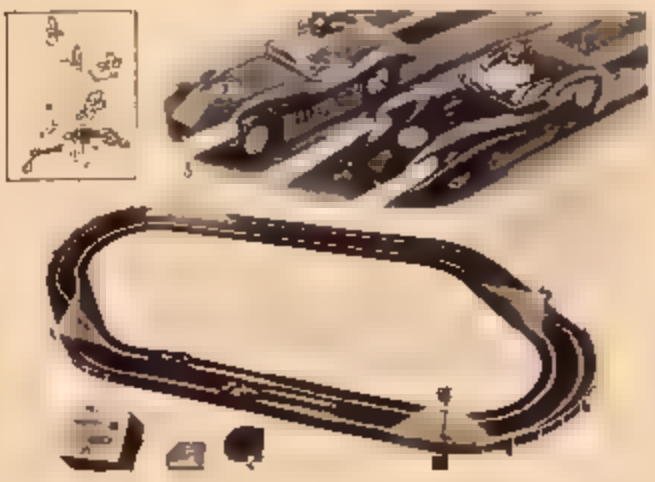


Hardware accessories precision machined or stamped of top quality materials to allow accurate alignment of all installations and provide top performance under all conditions of slot-racing, are now being offered by Gar Vic Enterprises, 7377 Greenbush Ave., North Hollywood, Calif. Leading the line is their fully adjustable 1/32 and 1/25 scale chassis for Bonner motors. Aluminum drop-centered wheels with natural rubber tires for 1/32 scale cars, and raised center wheels with self-aligning center and grooved tires for 1/25th scale cars will prove to be a real bonus when combined with other Gar Vic accessories.

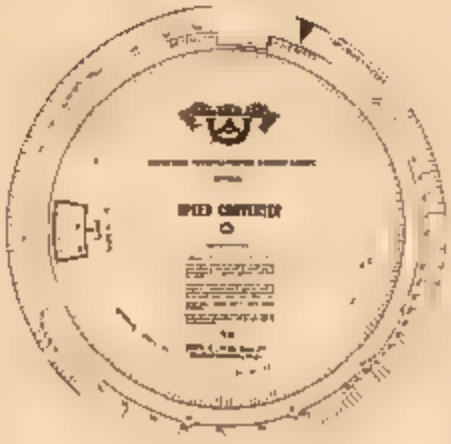
Several track-tested racing items featuring many innovations for competitive 1/25th scale racing are now being offered by K&B Mfg. Corp., 12152 Woodruff Ave., Downey, Calif. Leading the line is a Drag Frame that is adaptable for most popular motors, standard and deluxe adjustable frames with front end steering, and an Ackerman steering unit. Other popular items offered include a new heavy duty wound rheostat that will take operating voltages up to 30 volts, pressure sensitive aluminum foil track tape with a tensile strength of 30 lb-in. New $.98 Trim Kit contains complete set of numbers, trim decals, striping and a plastic driver, to put that finishing touch on your slot car racer.



Powered by the new Revell RP 77 Racing motor this 1/32 scale chassis is ready to assemble and hit the track. Containing special aluminum racing wheels and tires, oilite bronze bearings, fully adjustable brass chassis, gears and pickup, unit will fit bigger 1/32 Sports and GT type cars like the Ferraris, Scarabs, and Listers. Price $11.50 postpaid from Auto World, Box 961—M6, Scranton, Pa.



For the slot racing enthusiast who is handy with a checkbook, this lighted track by Scalextric will offer hours of excitement. Two cross-overs, lights on the hazard areas, and working headlights on the cars will provide all the necessities for the hobbiests with the champagne appetite and $69.95. Competition series C.M. 34 track measures six feet ten inches by three feet four inches and includes two cars. For additional information contact Polk's Model Craft Hobbies, Inc. 314 Fifth Ave., New York, N.Y. 10001.



To provide you with a little extra fun, MINRA has made available this accurate Speed Converter for slot racers. Designed for the "novice" as well as the "professional," it will tell you exactly how fast you are going in scale mph. This handy wheel will convert to scale mph, all scales, from 1/87th to 1/24th; distances, from 15 ft. to 240 ft.; times from 1 sec. to 16 seconds. In addition it will indicate the correct footage for each portion of a mile, in your scale, and at the same time, you will be able to tell at a glance the correct distances for all of the other major scales. Price $.98 postpaid from Miniature International Racing Association, P.O. Box 51, Dept. MCS-C, Englewood, N.J.

GO WITH O GAUGE

Racing buffs cramped for space should have a ball with this on the "Scale Trail"

PRECISELY 1/48th actual size (or half the dimension of the more familiar 1/24th scale), O gauge falls approximately midway between tiny HO and 1/24 - 1/25th scales. Until O's recent introduction, the number of would-be fans who had insufficient space to set up a bigger-scale layout, but who were dead set against anything as minute as HO, were many. But now apartment dwellers can become adept handlers, just as can those whose wives (or mothers) absolutely refuse to relinquish household space for a large permanent track.

To check thoroughly into the practicability of O gauge, we obtained Aurora's #1701 set which turned out to include everything needed to put it into racing operation. For an outlay of only $24.95 we had two rapid cars, an extra set of optional slick tires, four sections of 9-inch straight track and eight sections of curved, two speed controllers, a powerpack, and sufficient wire, track alignment pins and locking clips to assemble the whole works into an operating, but small, racing layout.

The #1701 set is the smaller of the two Aurora layouts available at this time, the larger (#1702 and selling for $29.95) containing enough additional track and other accessories to construct a cross-over bridge to permit figure-eight running. The smaller set can be built into two forms — and oval or an irregular circle. But, Aurora hastens to add in the booklet which accompanied the set, other O gauge accessories and, of course, more track and additional cars are available from any dealer stocking Aurora equipment. Like any set with prefabricated track, the subsequent addition of more sections will naturally allow the small basic layout to grow in size and scope until lack of either space or ready cash demands a halt.

Two cars accompany the Aurora O gauge set your editors checked; a chopped '32 Ford sedan, and a Model A roadster pickup. Both rods have identical chassis.

Pin-type guide is secured by forward chassis mounting screw. Electrical pickups are shoes extending ahead.

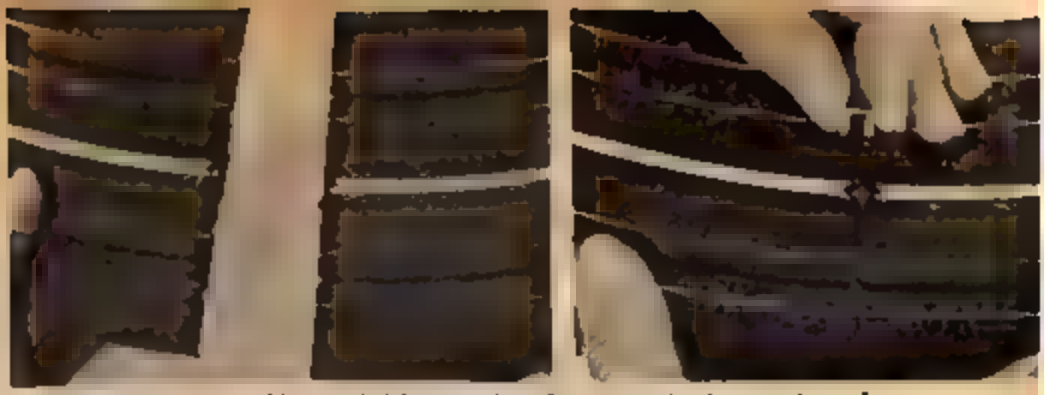
At left above is one of Aurora's O gauge rods, compared to an HO car at the right.

Dismantled sedan, showing integral chassis/motor assembly. Note slicks.

We found the O gauge setup to be identical in every respect to the better known HO products put out by the same firm, with the sole exception of physical size. The cars, quite naturally, are nearly twice the size while the track itself each section of which contains two slots, has grown proportionately in width (though not in length which remains at nine inches.) But beyond that, speed controllers, powerpack, and the locking and alignment pieces are identical to those used in HO. Obviously, Aurora has found their smaller equipment to be entirely satisfactory and have retained as much of it in their new and larger sets as possible.

The cars available carry the same Thunderjet designation as did the later

Speed controller mounts to table top. "Steering wheel" regulates speed. On left is "brake;" on right, reverse switch.



Track sections are quickly coupled by inserting alignment pins in one piece, showing adjoining sections together (left, above). Rigid coupling of sections is via U-shaped metal piece which is dropped into holes provided (right, above).

HO's, and construction is on a par. In fact, anyone familiar with the smaller models would immediately recognize the O models as being Aurora's. The unit parts and methods of general design and assembly are the same as HO in every respect but size.

At present only four O cars are available from Aurora: a '31 Ford A pickup, a '32 Ford chopped sedan, a '36 Ford convertible and a '57 Chevy hardtop and all are individually priced at $3.98 for the ready-to-run car. Track is limited to two lengths of straight and just a single radius turn — 15-inch with eight sections being required to form a circle. Naturally, this prevents the assembly of a 4-lane course as side-by-side sections of identical-radius track won't nest.

The unit price of track is as follows: Nine-inch straight (#1727), 69¢ — nine-inch terminal straight (#1728), 98¢ — six-inch straight (#1726), 59¢ — 15-inch radius curve (1/8th-circle, #1726), 79¢.

Because Aurora is, right now, the sole manufacturer on the market in O scale, and because further developments in this scale seem to be so closely guarded we can say nothing about the possibility of combining the pieces to be eventually offered by various manufacturers into one, real swinging road course. (In HO, the sets offered by the several competing firms are fairly compatible allowing, for example, one maker's cars to be run on another's track, etc.)

So, O gauge is here; though its entrance seems somewhat timid.

Using nothing more than a screwdriver (to force locking pins into place and for connecting wires to terminals), and a knife (for stripping insulation from the leads) we easily assembled our set into an oval. As with HO, O gauge track locks together so securely that it need not be permanently fastened — though holes are provided in the track base for the purpose. Two card tables or the dinner table would have sufficed for waist-high support, but we settled for the floor as it was quicker and at the same time permitted us to eat conventionally.

From the time we broke the seal on the colorful Aurora box until our two cars were hot-lapping it on a trial run, we had spent less than fifteen minutes — and this time element opens up all sorts of avenues for the frustrated slot driver who has put off delving into the sport because his track (if he had one) would have to be dismantled and stored in a closet after each evening's running. Too, the O gauge owner who prefers not to fasten his layout down too securely can pick up his pieces and trot over to the neighbor's house if the whim strikes him.

Performance is reasonably noteworthy and luckily Aurora has stuck with their potent 3-pole D.C., rotary "pancake" motor that has driven their smaller (and lighter) HO cars up to 600 mph scale speed. Acceleration of both cars was *almost* impressive as they managed to get off the mark with some wheelspin. Strong acceleration does not lessen top speed potential, however, though on our small oval we could not reach top speed without de-slotting. Speeds were sufficient to require power reduction in the turns. Thus, so long as actual and rapid control is required to stay "in the groove," O gauge can be considered definitely out of the toy classification.

Investigation disclosed that both the '31 A pickup (#1751 and the chopped '32 sedan (#1752) with which our set was equipped, have the same chassis with a 2-3/8 inch wheelbase. This scales out to 114 inches between axles, thus the A is six scale inches oversize, and the '32 two scale inches. That puts the '32 within acceptable tolerances, but the A is much too large. It will be interesting to see if competing manufacturers follow Aurora's size lead, or if they go the actual scale route which would be far more desirable.

The fact that the cars are a trifle big for 1/48th scale does have one advantage — it makes them somewhat easier to work on. But drive gears are standard throughout the Aurora O and HO lines and, as yet, not one produces changeable gears for these miniscule racers, the purchaser is pretty well stuck with fixed ratios. The only way by which performance can be changed to either improve acceleration (for a short, twisty course) or to up top speed (for the drags or tracks with lengthy straightaways) is to switch tires. The molded chassis and cramped body leaves absolutely no room for motor changing, so hopping up tricks are limited to merely keeping gears and shafts clean and lightly oiled, and making certain that all gears spin freely on their axis.

O gauge cars are guided by a single forward-mounted pin which protrudes down into the track's slot. It doesn't seem likely that the adaptation of a true guide shoe would be of much help, but some experimentation could be done in this department with perhaps improved handling results. As mentioned, we were troubled with spinouts caused not by over-eager drivers but by rear tires with insufficient traction. This meant lap speeds were on the slow side until we tried the optional set of soft rubber slicks on the '32 and found them to give terrific bite enabling speeds to be increased greatly. Naturally, as the slicks were larger than the conventional hard rubber tires, initial acceleration was lessened.

Body detailing of the O cars leaves something to be desired, but the true enthusiast could easily do some reworking to bring the models closer to realism. Our kit contained an extra decal sheet with numbers, signs and flaming which, when applied, would enhance appearances.

O gauge railroading can offer all sorts of scenic bits, including people, buildings, trees, and so forth, which will give O followers a decided advantage over the larger advocates who must scratch build such things.

All in all, MCS welcomes O gauge to the slot racing scene and we are glad that Aurora has so closely followed their successful HO product offerings. The O gauge set was so simple to assemble that a youngster could do it blindfolded, yet by the simple expedient of adding extra track sections and other available accessories the kit could be expanded into a great road course that only a quick-reflexed adult could master.

SLOT RACER'S Work Shop

NEW IDEAS IN RACING MODIFICATIONS

THOUGHTS AT THE START OF A NEW YEAR

by George Siposs

AS WE ENTER A NEW YEAR, we wonder what the future holds for our hobby. It is more than ten years now that electric model car racing was made practical in England and the sport has come a long way since.

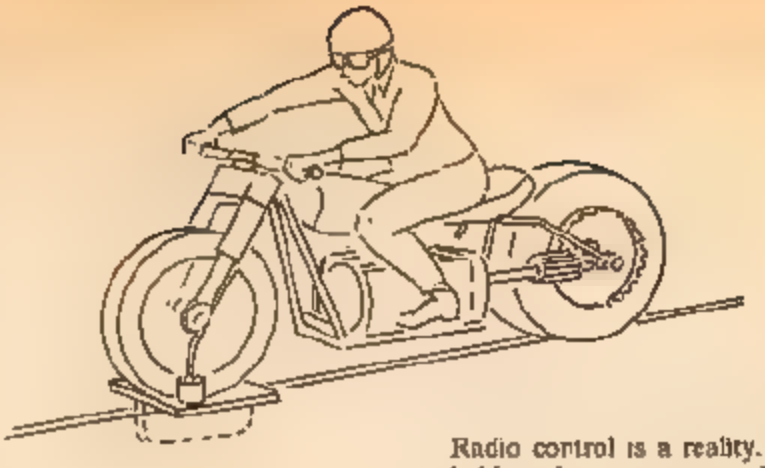
First efforts to reproduce car racing on a small scale were made by a handful of enthusiasts who devised all sorts of rail systems to guide the cars on the "track." Today's modern "slot-and-tape" tracks bear little resemblance to the kitchen table creations of the early pioneers in this hobby. From their efforts evolved a movement which seems to have swept the country and possibly the better part of the world this year. Just one look at the Christmas catalogues proves that, where model trains used to take up most of the space allotted for electric hobbies, today one finds in the catalogue of a major department store six pages of model car racing kits but only a page and a half of model railroad equipment. Yes, the road was long and hard. The utmost simplicity of todays tracks is a result of many experiments. We do believe however, that there is still room for improvement. Ingenuity and imagination on the part of model builders cannot help but produce methods of guiding cars that will far surpass anything seen today as far as realism is concerned. Here we shall attempt to discuss some of the avenues of model racing yet to be developed. Perhaps you will use these ideas to experiment and develop the racetracks of tomorrow.

First and foremost, the guidance and power transmission systems can be improved. Perhaps power tapes will be fastened to the inside of the slots so their appearance will not detract from the general effect. It seems to me that pickup wires could be mounted on the bottom of the flags where they cannot be seen. And how many times did you wish that the slot would be eliminated completely While the slot allows the cars to drift to some extent the actual stabilizing effect of the slot on the flag is much more powerful than the cornering force of the tires. An unobstructed road surface will compel the cars to rely entirely on proper adhesion, not unlike the real racing cars. This will probably reduce the speeds but realism will be improved 100%. But how can cars run if they are not connected to some guidance system? This is the big problem that confronts modelmakers everywhere. Perhaps one way would be to leave the road surface unobstructed and build a secondary track under it. On this track a simple "car" can be run, (monorail principle) which has a swinging arm attached to it. (A "car" and secondary track is required for every model car to be raced.) The arm is controlled by a solenoid so it can swing left or right. Power is supplied to the solenoids by means of third and fourth power tapes. The speed of the "car" is controlled in the conventional manner i.e. hand-held rheostat. Solenoids are actuated by a steering wheel or push buttons. At the end of the arm a powerful magnet is attached which is pressed against the underside of the track by a spring. The model car above the track is built up in the conventional manner except it has no motor in it. It should have Ackerman steering and the center of the arm should have a soft iron bar fastened to it. The car is placed on the track When the underside "car" is started up the magnet drags the upper model car with it. A front wheel drive effect is achieved this way. By operating the solenoids the magnet can be swung in an arc under the track so the model car over the track is dragged left or right. The model car is really dragged along by magnetic force rather than driven (powered) through its wheels. Thus several cars could be raced on the same course and they could pass each other or take their own chosen line through the turns simply by energizing the solenoids. If the "car" is driven too fast the magnetic link will be broken and the model car will spin out or crash out.

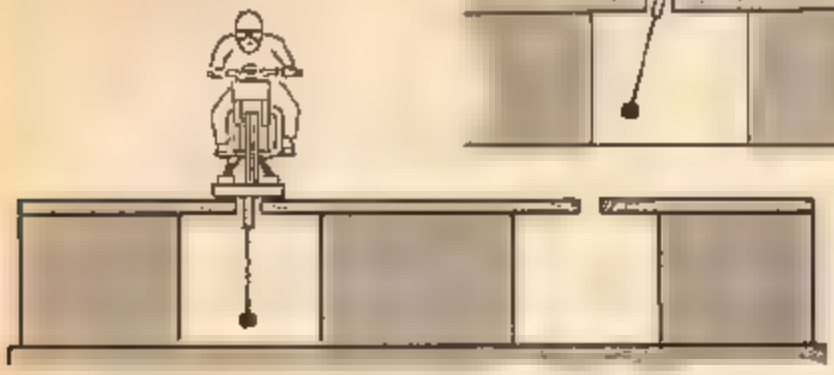
With this system uneven road surfaces can also be driven over Hill climbs and slaloms will be possible. Scale model cars now available in hobby stores could be modified for this system very easily by the addition of a soft iron bar under the front end of the car The basic "car" under the track always remains the same.

Now back to the slots. Motor-

cycle racing provides just as many thrills if not more, than race cars. We have seen very little in the way of solo or sidecar motorcycles on slot tracks. The basic construction of sidecars cycles could be almost the same as todays slot cars with the exception of the body. The riders and the body can be constructed from balsa, plastic or fibreglass. The front wheel need not turn on its axle. Instead, make the front fork swivel in the usual manner but mount the mock up of the front wheel on top of the flag which will then serve as guide and power pick up, same as in slot cars.



Solo motorcycles would be very difficult to make for the conventional slot track. One very realistic way to build a special track would be as follows. The track is made of hardboard and mounted on trestles. The



motorcycle is driven by a small electric motor through worm or crown gears. In order to hold the cycle upright, a steel wire (with a small weight on the end of it) is fastened to the bottom of the cycle. This arm would present no resistance to the forward motion. When the cycle enters a turn the weight swings out due to centrifugal force. Thus the rider leans in towards the inside of the turn. Can you picture three or four racing machines leaning in dangerously as they power through a hairpin? This type of track can of course be used for regular slot racing with no alterations at all.

I believe that as the model car sport is developed to a higher and higher level, one will be able to see very sophisticated cars with solenoid controlled brakes, automatic gear changes, independent suspensions, lights etc., in abundance. Even today it is quite possible to construct a car with independent suspension on all wheels, four wheel drive *and* steerable front end, all on the same car. As the sport progresses these will be made more and more reliable so that road holding will be a science rather than hit and miss approach.

The ultimate in every model makers mind of course is remotely controlled gas powered racers. Radio control is a reality. Very reliable units are mass produced and are within the reach of average modelers. Gas engines are certainly an everyday thing so what really remains now is to put some effort into developing reliable racing cars. The one major drawback is the difficulty of handling model cars at high speeds. Quite likely these little cars will attain speeds of 40-50 m.p.h. Roadholding and quick steering as well as lightning fast driver reactions, are a must. Several modelers are working on R.C. gas cars so that the day is not too far off when we will see a miniature racecourse, 1/16 mile perhaps, where no figure-eight is necessary to equalize lap lengths. The cars will be completely under the drivers control. With multi-channel R.C. equipment, throttle and brake control as well as gear changing will be entirely feasible.

Whatever the future holds in store for model car racing, it will be entirely the product of ingenious modelers. We hope that through this article we helped to start some of the future "miniature Fangios."

STROMBECKER

BY BILL SIPPEL

These tests are not performed to compare brand against brand but rather to show the cars as they normally appear, and the minor modifications that can be made to improve them. We are not concerned with appearance or details of the bodies when testing. Our main objective is to see what can be done to improve performance of the car with a minimum cash outlay. As with all MCS tests, cars evaluated were taken at random from a dealer's shelf, they were not supplied by the manufacturer. All MCS "road tests" are run on our track (designed to comply with International rules) not the manufacturer's.

Underside of the Strombecker Berlinetta modified with the Competition Accessory Group available for $1.95.

TO EVALUATE STROMBECKER cars this month, we chose the Ferrari Testa Rosa and the Ferrari Berlinetta GT. These cars sell two ways: built-up ready-to-race for $5.95, and in kit form at $3.95 each. The total Strombecker line also includes many more sports and GT cars as well as GP's, Indy, stocks, a dragster, and a jalopy. The two cars tested both measured larger than the advertised 1/32nd scale but are in scale *proportionately*. Your own group rules would decide whether or not they fit within your plus-minus tolerances.

Looking at the car's construction merits, we find the normal in materials. Wheels, frame, and guide blade are nylon. The wheels have a drop center design (however missing the inner lip) and the tires are made from a very soft base rubber. Gears are brass pinion and nylon crown with a ratio of 3.5 to 1. The motor is typical train style with forward magnet. Made in Japan for Strombecker, it snaps easily into the frame. The guide has a long blade. 1" (maximum allowed under International rules is 3/4") and the width has been thinned so it runs in the slot without trimming.

Axles, motor and guide snap into the frame and it in turn snaps into the body. In full running trim, total weight of the car is supported by the tires, no sled system.

In strictly fresh-from-the-box condition, these cars gave the appearance of a machine wanting to go on the first round, but the bounce wasn't giving it a chance. There was bounce everywhere, on straights and turns. The Testa Rosa was the more violent of the two. At any rate, with the rear end bouncing the front was holding well and we could get our laps in without trouble for our stock times.

As you know, we are against using weights to improve handling, so we looked for another way to solve our problem.

Freeloading the motor at low voltage with the rear wheels off the track quickly showed the plastic wheels to be off center. For our next test, we decided to

give it another try without a financial modification.

Tires were sanded by revving the motor until they were round to the track surface. In doing this, we checked the motor and found it did not heat up, although we revved and loaded it quite hard.

Back on the track both cars showed considerable difference. They now ran far smoother than before (though the Testa Rosa was still slightly rough) Rear end road holding during cornering was good, even without adding weight. Lap times were lowered and it was possible to drive deeper into the turns before shutting off

Now it was time to spend some money Truing tires with sandpaper is only a partial cure, as off-center wheels will run out of balance. In the accessory field there are all sorts of gear sets, axles, wheels, and so forth, to choose from, but as we wanted to do the most for the least, we decided the stock wheels had to go. Strombecker Competition Group #9094, selling at $1 98, was the answer here. This gave us 4 - 1 gears, four machined aluminum wheels, two threaded 3/32" axles and brass bushings, plus necessary screws and nuts.

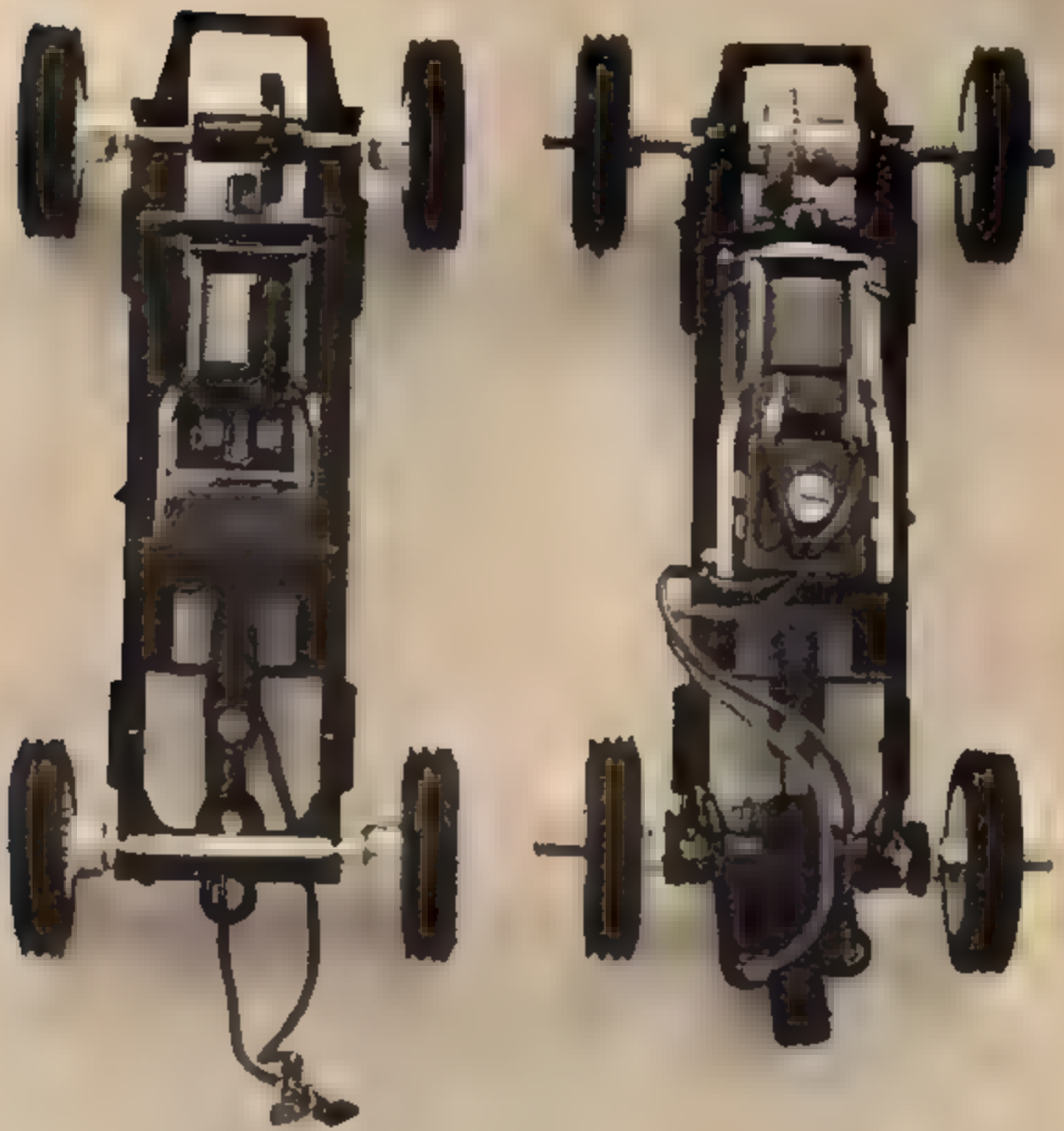
Now with truly round wheels, tires we had earlier sanded had to be replaced with new weenies. Gear mesh was now vastly improved with minimum drag. Axle bushings were a bit too free but rotation proved to be on center We did experience trouble keeping the pinion gear tight on the shaft and would

BEST PERFORMER ON THE MCS TEST TRACK WAS THIS MOD FIED FERRARI BERLINETTA.

THE TESTA ROSA BODY ASSUMED A BIND CAUSING ROUGH RUNNING UNTIL MODIFIED

suggest dimpling the latter before installing this accessory pinion gear.

Both cars were duly modified, and now proved to be extremely smooth on the track. (However, oddly enough, the Testa was a trifle rougher than the Berlinetta.) With our newly acquired free gear rotation we could plunge still further into the turns. Both cars handled



MODIFIED CHASSIS AT RIGHT SHOWS ALUMINUM WHEELS, 4 TO 1 GEAR RATIO, AXLE AND BUSHING. CHASSIS IS STOCK.

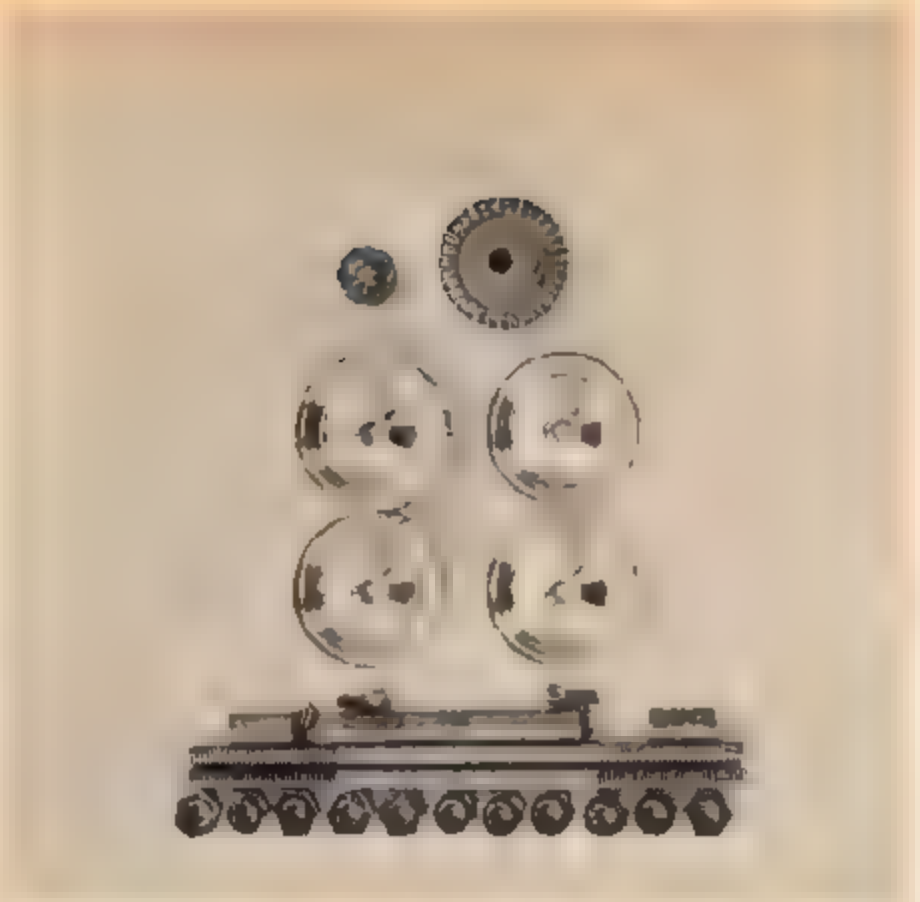
well and it was not hard to lap consistently with virtually identical times.

Again we tried to improve performance even more. We touch-trued the tires with sandpaper, worked to get the brass axle bushings so they would remain constant, and carefully lubed all rotating parts. This time, with everything rolling as freely as possible, and as true, we made our final road test laps, using first the Berlinetta then the Testa Rosa bodies on the same chassis. The reason for the latter was an attempt to solve the problem of the coupe always being the faster of the two. *Still* the coupe was faster, and the Testa continued to be the rough runner. Our conclusion here was that the body when snapped over the frame assumes a bind or stress somewhere; a problem certainly not indicative of every model.

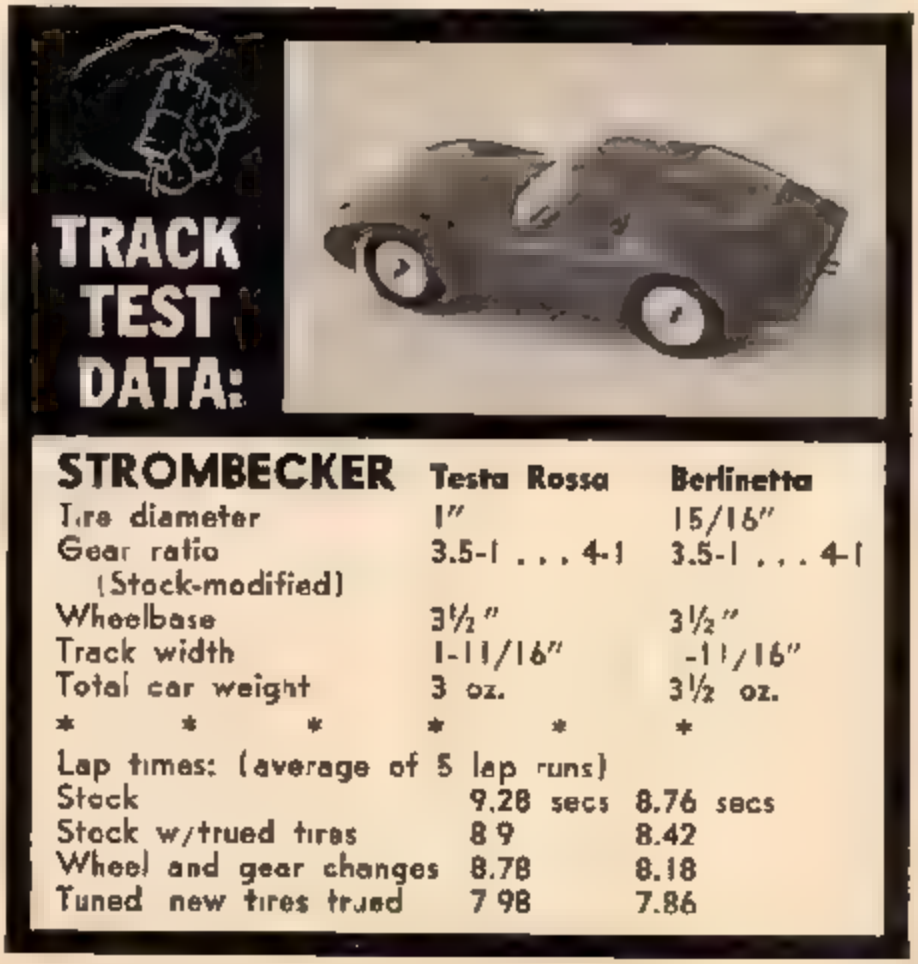
Results showed we undoubtedly could have kept working and improved times even more, however our goal is to show what can be done with just a minimum of time and money. Our readers, at least those who will follow the performance improving steps outlines here, should be able to carry on from this point. In the case of this particular test, we did not go outside the accessories or products offered by Strombecker, but there are a good many items available from the competition that should not be overlooked when modifying time comes. In our own case, we used the $3.95 car and a $1.95 modification kit, which still keeps the car in the low cost range.

In all cases we run tests on five continual laps, then divide them out for averages. This has proven to be far better than going for single lap runs, where a lucky "one hot lap," or a bad lap, will give a false performance picture.

Some interesting things showed up in these tests: the Testa in its third state of modification would just be a good race for the Berlinetta in its stock form! The Testa, however, showed the greatest overall improvement through the modifications. In other words, using the first and last lap runs as examples, the final version of the Testa would lap a stock Testa in the sixth lap. In the same case combination, the Berlinetta would not lap its stock counterpart until the beginning of the 10th lap. One thing we must note is that the Testa made its greatest time gain during the final test, showing, no doubt that at random the Berlinetta kit contained a slightly faster motor, all other things being equal. At any rate, we did find that each improvement helped so much that all can be considered worthwhile. To keep going faster keep modifying!



Strombecker's Competition Accessory Group adapts cars for competitive performance and speed. Kit includes aluminum racing hubs, beveled gear and pinion, screw axles and nuts, and front and rear bushings.



STROMBECKER	Testa Rossa	Berlinetta
Tire diameter	1"	15/16"
Gear ratio (Stock-modified)	3.5-1 . . . 4-1	3.5-1 . . . 4-1
Wheelbase	3½"	3½"
Track width	1-11/16"	-11/16"
Total car weight	3 oz.	3½ oz.
* * * * *		*
Lap times: (average of 5 lap runs)		
Stock	9.28 secs	8.76 secs
Stock w/trued tires	8.9	8.42
Wheel and gear changes	8.78	8.18
Tuned new tires trued	7.98	7.86

CROSSOVER TRACK and DUAL CONTROL

You can add a new dimension of fun and skill to your race with this easy adaptation.

by Watson L. Burts

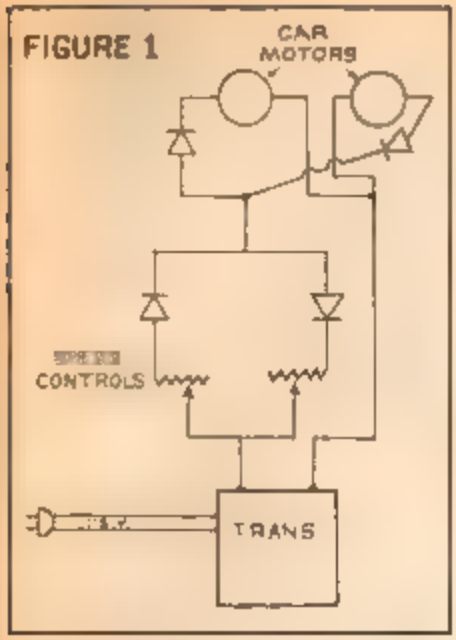
THE GREEN MERCEDES risks a spinout accelerating through the hairpin curve, but he gains the lead and slams across track in front of the red Healey. Not so easily foiled, big red cuts left and guns up the straightaway to close the gap.

A crossover track which facilitates maneuvers like this is easy and inexpensive to build, and will add a new dimension of fun and skill to your race. The crossover is made of soft bass wood but works much like a model train switch crossing the cars from one lane to the other at the will of the drivers. A small modification to the power pack and cars allows you to run two cars in the same lane but at separately controlled speeds. Diodes in series with each controller transmit either positive or negative pulses to the track and diodes in each car receive either positive or negative current from their respective controller (See Drawing #1)

Total cost is less than $12.00 and building time is three or four evenings. The unit illustrated is adapted to a Marx race, but this modification may be made to a Strombecker, Aurora, Eldon, and most other commonly available makes.

CONVERT POWER PACK & CARS

Most power packs have both a transformer and a rectifier producing an output of 12 to 20 volts DC. If your power pack (such as in the Aurora set) has only a transformer, a rectifier must be added. Use a 500 ma selenium rectifier



by simply connecting one wire from your power pack to one of its terminals. Then its other terminal and the remaining power pack terminal form the DC output points.

As mentioned, most power packs include a rectifier in which case no wiring in the pack need be changed, only added to as shown in Drawing #2. Be careful in soldering to use pliers on the lead wire between the diode and the point soldered to conduct heat away. Small arrows on the diodes will help you orient them in opposite directions as shown. Add a jumper wire to the two outside terminals of your track feeder clips. This puts a common feeder on both tracks.

Open the cars up and solder a diode in each oriented exactly as shown in Drawing #2 and Photo #1. Disregard the small wires in the photo connecting the top and bottom halves of the racers. They are headlight wires.

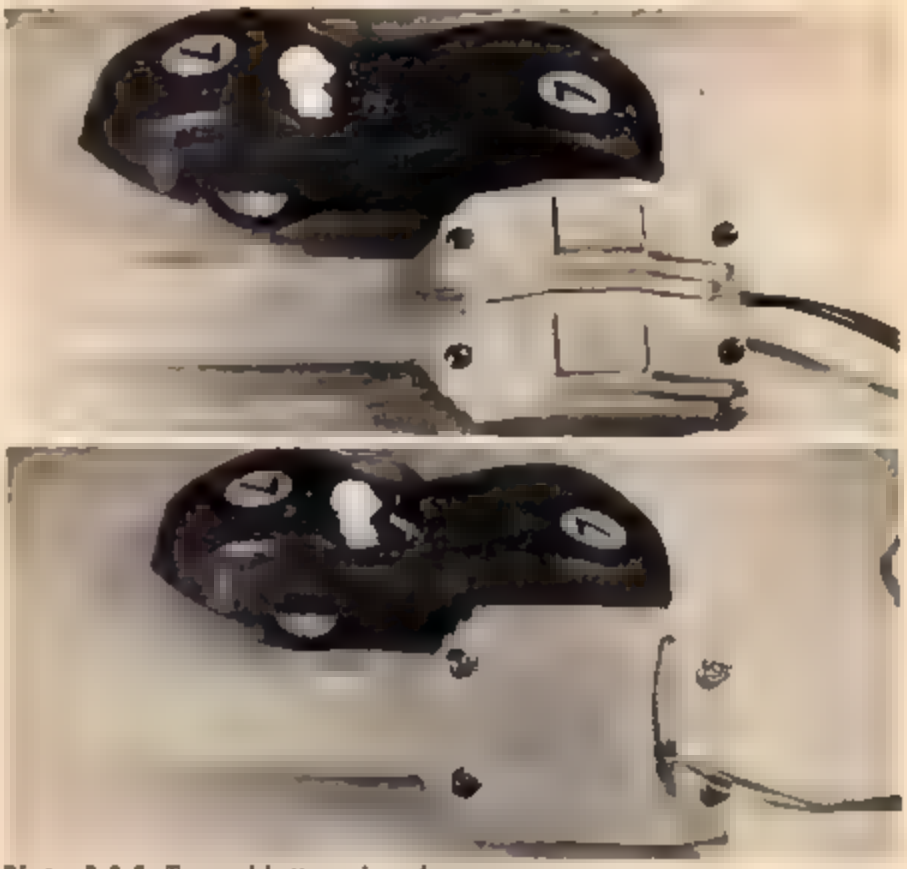
Now connect the power supply to the track. Both cars should now run on either track with separate control. If there is some problem, check polarities of the diodes and test for an open or short circuit in either the wiring or one of the diodes.

CONSTRUCTION OF THE CROSSOVER

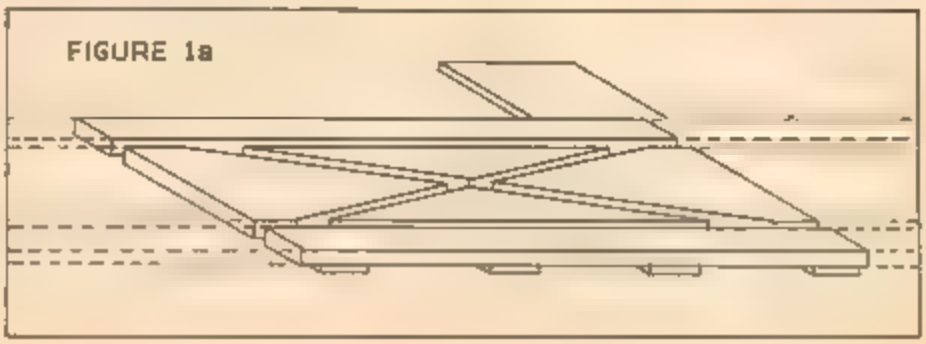
First cut the crossover controllers from 1/8" hardwood or masonite and attach and wire the pushbuttons as shown in Drawing #2 and Photos #2 and #3.

The crossover section is made from 3/16" thick balsa. Two pieces of 3-inch-wide basia may be glued side by side to obtain the desired width. Two sections of straight track from your race will be permanently attached at either end of the crossover. This insures good electrical and mechanical connections to the rest of the track. The crossover section is twice as long as a standard track section. Cut-

PHOTO 1 DIODE LOCATIONS ARE SHOWN HERE.



Photos 2 & 3: Top and bottom view of crossover controller wiring on hardwood.



ting a single "X" to form the crossover slots does not work. Two cuts are necessary to make each arm of the crossover. Making one cut and moving the wood apart would result in an uneven groove. The straight side slots may be formed by making single cuts and moving the wood apart to form grooves of the correct width. Cut the diverters from shim stock (thin, pliable metal) and fit them into the triangular center pieces as shown in Drawing #3. They are moved by the solenoid(s) to divert the cars through the crossover slots. Drill or punch a small hole in each for the control wires. Now glue on the bottom supports (masonite) and solenoid stand. Straight pins can be used to hold sections while drying. A glue such as Weldwood Presto-Set is ideal for this work. After the glue has set, paint the balsa with three or four coats of glossy black enamel. This should result in an almost perfect match in appearance with the standard track.

Photo 4. Made from .045" piano wire, conductor should be formed as shown in Figure 4 for best results.

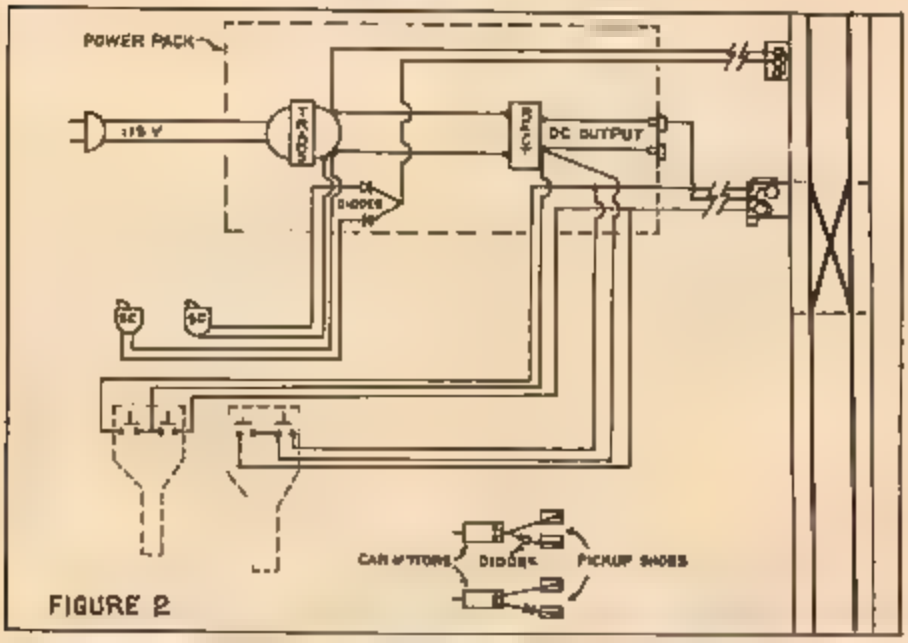


FIGURE 2

The conductors on the crossover track are made from .045" piano wire which is available in most hobby supply stores. Bend and cut in the configuration shown at the bottom of Drawing #4. One end is bent to approximately the thickness of the balsa, while the other is ¼" longer for the electrical connection. The ends are bent in so the conductor may be sprung into place, insuring tautness and a close fit tight against the balsa. Insert the conductors as shown in Drawing #4 and Photo #4. The wires marked "X" must not touch those not marked.

Use enamel insulated wire, scraping the insulation for soldering to each conductor. All conductors marked "X" should be connected by one wire and all unmarked conductors connected with another (Photo #5). These wires are then soldered to the attached track section (Photo #6). Connect these to the track conductor feeding the crossover conductor adjacent to it.

SOLENOID MECHANISM

The solenoid mechanism is shown in Drawing #5. Long screws (Photo #7) compensate for the difference in the long solenoid movement and the small movement of the diverters. Almost any solenoids could be used for this application, either surplus as shown or standard units such as Guardian 75P595 (rated 6 VDC so use in series with a 50 ohm slidewire voltage dropping resistor). Mount the solenoids so the unenergized position will hold the diverters in the straight rather than crossover position. One solenoid may be used successfully activating both diverters simultaneously. This scheme is shown in Drawing #6. In this case only one pushbutton will be required for each person racing.

RACING

The best strategy in a race is getting far enough ahead of your opponent, say

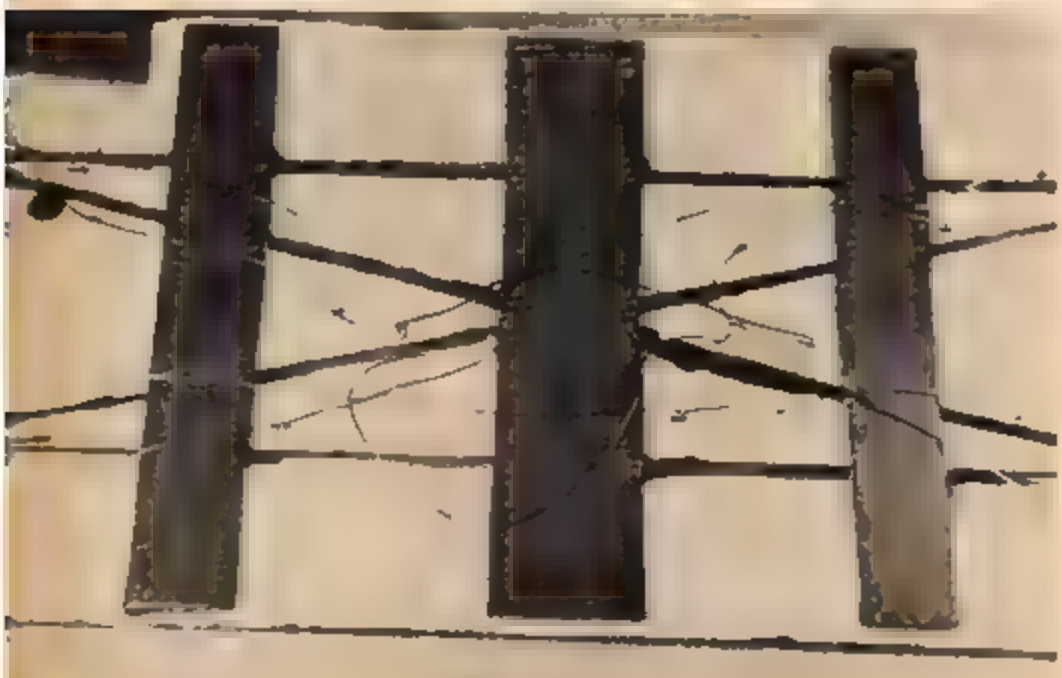
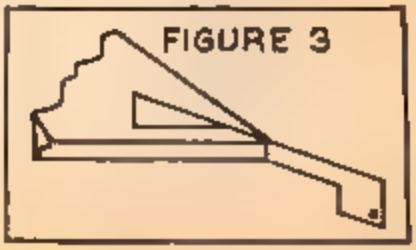


PHOTO 5. THIS WIRING NIGHTMARE IS THE BOTTOM OF THE TRACK JUST PRIOR TO SOLDERING.



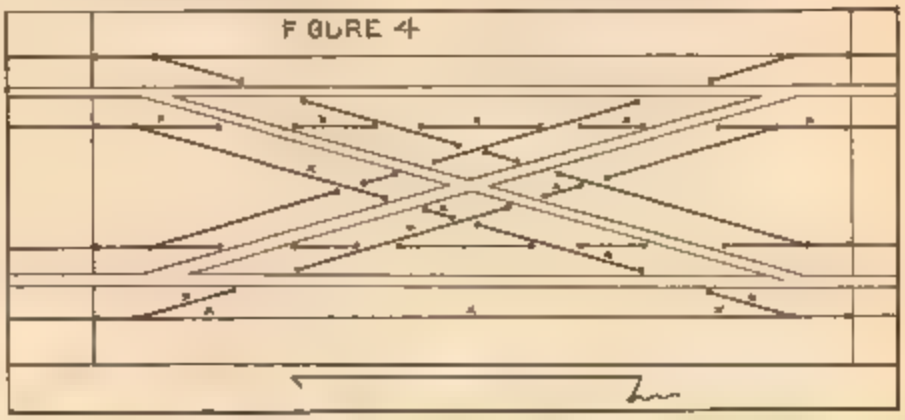
three car lengths, to cross in front of him without being run over. The greatest finesse entails crossing immediately behind your opponent who has successfully crossed in front of you. Needless to say, the crossover makes strategy a basic requirement in winning your now new type of race.

HOW IT WORKS

The diode rectifiers are the key to the independent operation of the cars on the same track. The diodes in series with one of the speed controls allows it to feed only positive current to the track, and the diode in the other only negative current. Conversely, the rectifiers in the cars pass only positive current in one and negative through the other. See the schematic diagram #7. When speed controller #1 is on, only positive current is transmitted to the track, and car #1's diode passes this current to its motor. Car # 2's diode blocks this current so it does not move.

Materials Needed

- Four silicon rectifier diodes, 750 ma (Allied Radio Stock #39A 911-D . . . 2 for 49¢)
- One 500 ma selenium rectifier (Allied Radio Stock #4U826 . . . 56¢ each). (This rectifier required only if your power pack does not already contain one.)
- One or two 12 volt DC surplus solenoid(s) or 1 or 2-6 volt DC solenoid(s) (Allied Stock #76P318 industrial solenoids, $2.70 ea. (If the 6 volt solenoid is used, add a 50 ohm 25 watt adjustable resistor. Allied Stock #1MM284 . . . $1.29 each.)
- 1/8" hardwood or masonite stock
- Two or Four standard doorbell buttons
- Enameled wire
- Glossy black enamel paint
- 3/16" Balsa stock
- .045" Piano wire stock (pre-tinned)
- .15" Piano wire stock (pre-tinned)
- .002" Shim stock



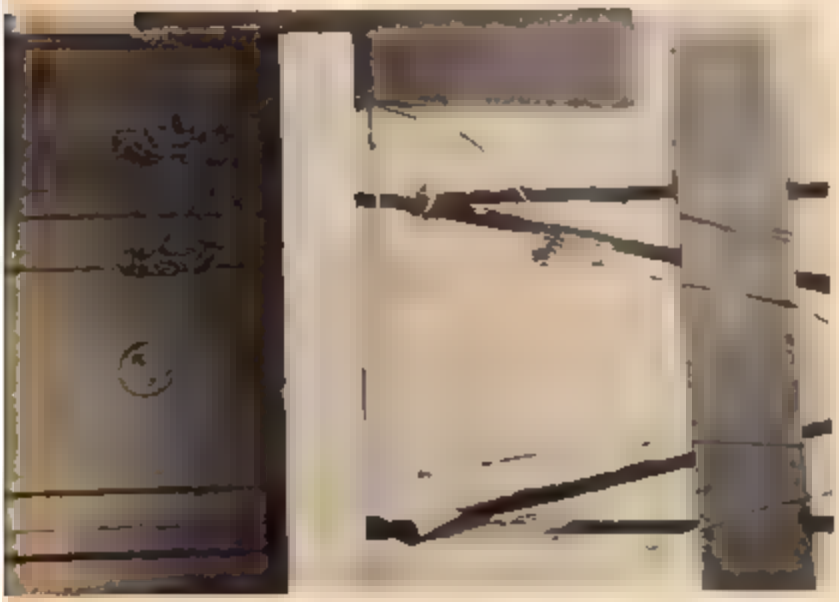
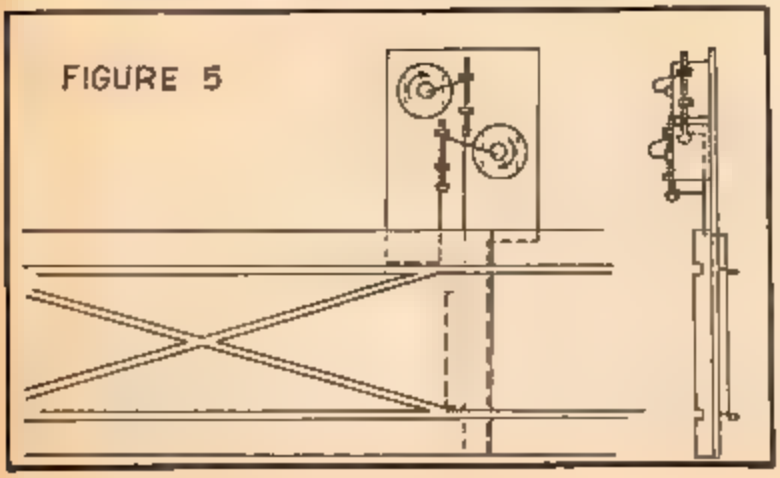


Photo 6: Once soldered to the track, wires are then connected to conductor feeding crossover.

Photo 7: This arrangement compensates for differences in movements between the solenoid and diverters.



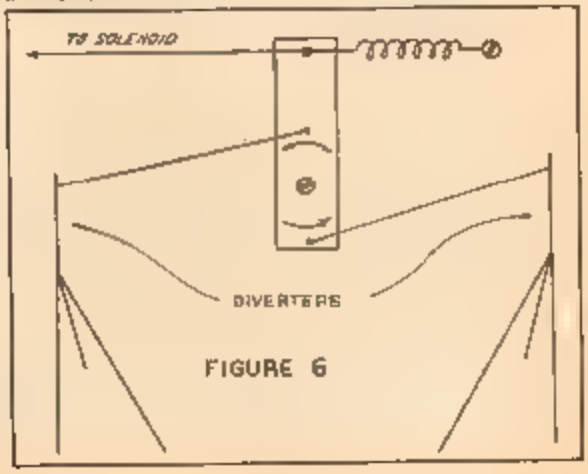


FIGURE 6

FIRST FOUR WINNING CARS IN THE SPA 200 ARE SHOWN WITH THE TROPHIES THEY NOW HOLD

THE FIRST SPA 200

A.M.L. KENNAUGH

TWIN MOTOR LOTUS beats Pittman powered Merc 6 seconds to win the Pittman Trophy for 1963 . . . Behind that headline is the story of one of the most interesting race meetings of the year in Britain.

Ecurie Spa, the well known club situated in the geographical center of England, is well placed for a big entry from all over the country, and the two previous big meetings had gained over 200 entries each.

To introduce something different, and give entrants more racing the club decided to hold a 200 lap Grand prix race with limited entry, and to even up the competition, only post 1945 built cars were to be eligible. Big bangers such as the 154 Mercedes Benz and 6 litre Auto Union were out. The big cars are generally conceded to be easier to drive very fast, and are popular entries in G.P. events. This time a big proportion were to be models of current Formula I cars . . . a very different proposition for fast, stable cornering.

Chas. Pittman Jr. was kind enough to sponsor the Premier award on behalf Pittman Motors Inc. and 100 of the top drivers in the country were invited to enter. Unfortunately the date of the meeting clashed with some of the newly formed Areas meetings, and up in the North, the Blyth, G.P meeting was the following week so some of the strong contenders from these areas were notably absent. However, as the entries rolled in some hot numbers were there in force. John Ramsdale, victor at the Spa meeting earlier this year, Riddick of Birmingham, twice winner at Whitehaven, Godden, winner at Brooklands . . the list was a real test, and could almost be classed as a forerunner of the future National championships. From the entry forms

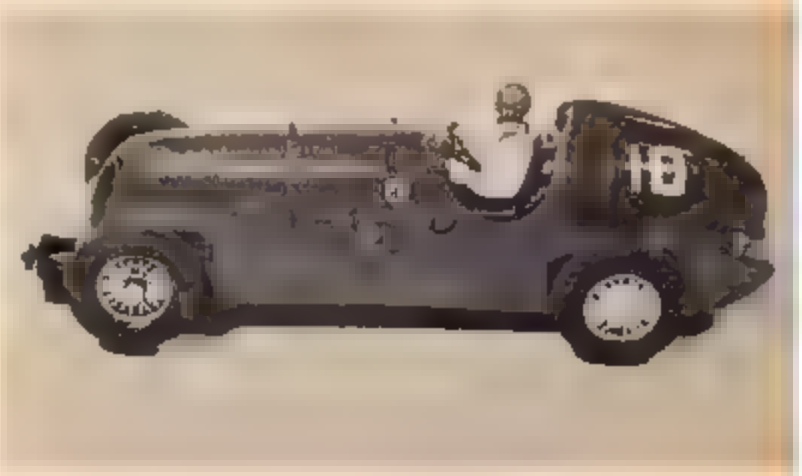
there was much last minute building going on, as in line with the organizers system, entrants had to specify their cars, and quote dimensional details. These are checked by the club scrutineers, and any not in the accepted scale limits are notified to give their entrants notice to withdraw, correct, or have them rejected on the day. Only Semi-finalists cars are actually scrutineered to ensure that they conform with the data accepted prior to the meeting . . . a great help in reducing processing to sensible proportions on race day

Practice showed some very fast cars indeed, and the home club looked glum when one car consistently lapped very close to the lap record time of 10.3 secs. but practice is not the race and it was a case of waiting to see.

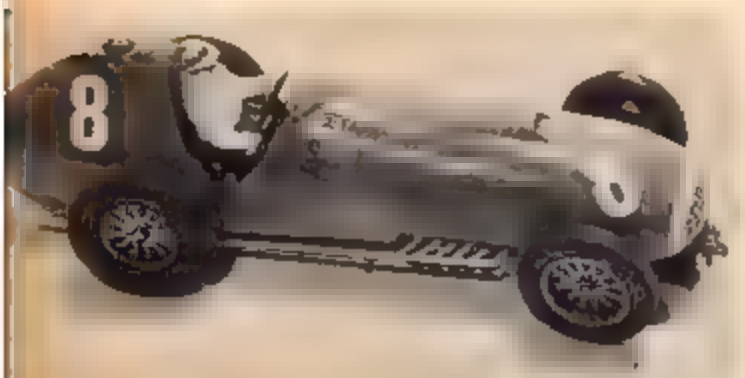
The heats started at 0.30 a.m. on the Sunday. No driver could drive more than three cars, and no entrant enter more than two but heats were of 12 minutes duration, so cars had to last out more than the usual brief sprint, and one spill did not necessarily mean all was lost. 'Par' for races is an average of 5 laps a minute and this went in the first heat when Turner of Birmingham put in 61.62 laps. By heat 3 Ramsdale had pushed this to 63.38 . . . very fast indeed and he stayed in the lead until heat 7 when Cliff Smith of the home club pushed up to 63.37 with a Cisitalia which still had paint almost wet . . . the night before it had been little more than a chassis. Every heat was a sour struggle

not only was the opposition keen, but it was a race against the clock, and that brief breather could cost tenths of a lap, and put you out of the running. Cliffs 63.37 remained top to the end, but the top twelve for the semi finals were only separated by 2.02 laps, a dif-

Runnymedes Club's three Mk. 10 Jags. have modified plastic bodies made from Push and go toys.



Author A.M.L. Kennaugh's "Bimotor" Alfa Romeo features a balsa body, a Scalextric motor, and home-made steering.



This 4½ Litre Ferrari by P. Godden Brooklands uses MRRC steering and a VIP guide.

Another old timer, Godden's 1923 Voisin G.P. K's Mk. I, uses home-built steering and rear brakes.

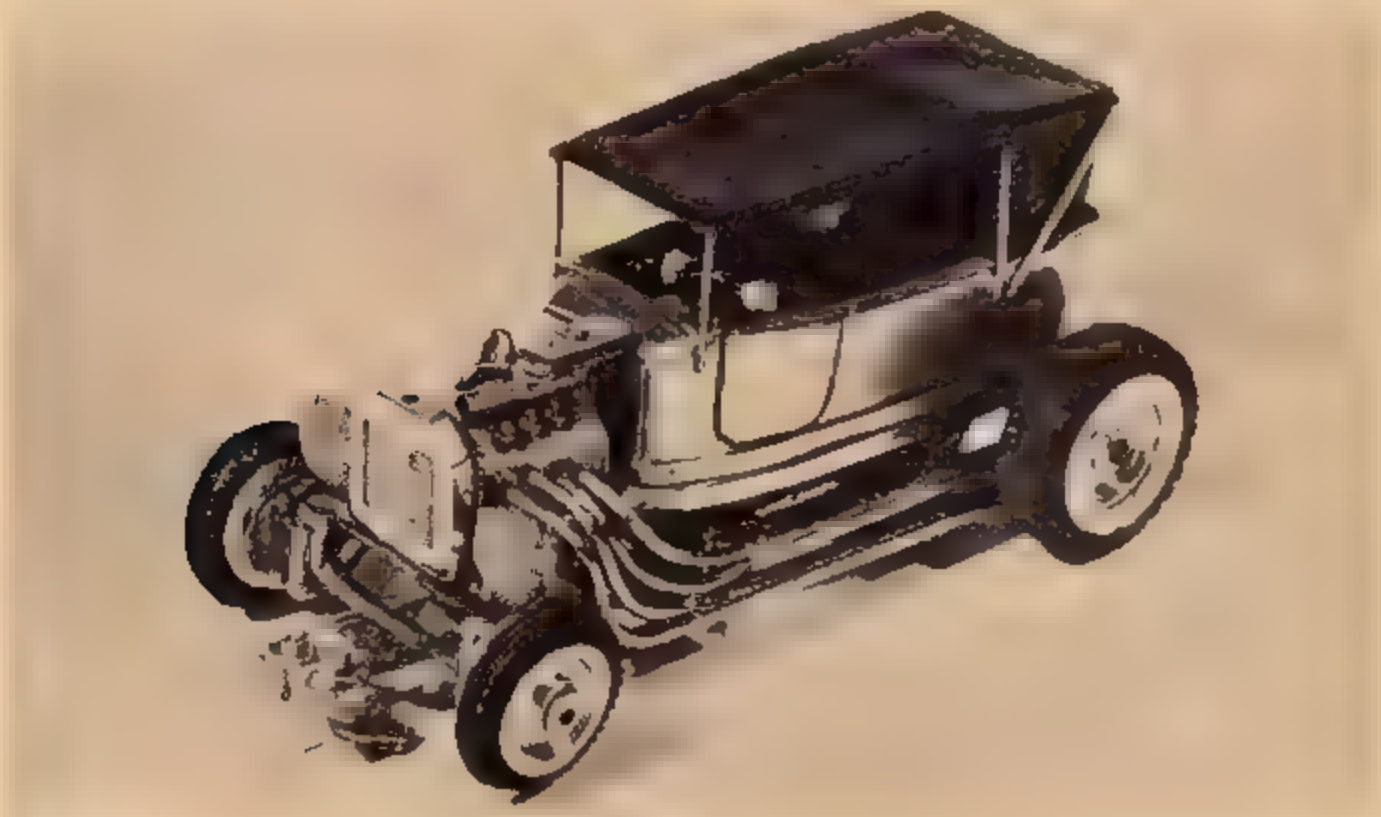
WORKING HARD THE FINALISTS ARE (FROM LEFT) SNEWIN, PLOGE, D. SMITH, AND C. SMITH

The concours winning Cooper K Mk I has four wheel drive.

Underside of the winning Cooper. Note wear on the guide.

The 1961 Ferrari F-I was entered by D. Groom from Ecurie Spa. The 1963 Ferrari F-I (at right) is owned by B. Jenkins, from Birmingham, England.

MCS writer Duncan Laycock's Connought streamliner features front wheel drive. The scratch-built, fiberglass body lives up to the wild chassis it mounts.



SCRATCH BUILT FROM METAL, THIS FORD HOT ROD ACTUALLY STARTED LIFE AS A BENTLEY

EXTRA WIDTH OF CONTACT TAPE IN FOREGROUND IS THE THIRD TAPE FOR LIGHTS ON THIS JAG.

ference of less than ½ a second on average lap speeds, and several unfortunates were out of the 'semis' by less than a quarter lap . . . lifting the thumb off the button too early once or twice and that was it.

There were three American entries! D. Glenn, who I believe hails from Portland, Oregon, had a 1956 Connaught entered by Dunc Laycock of Whitehaven, which was unfortunate enough to lose its rear axle bearing. A. Supple of New Orleans, whose '62 Cooper performed well, and a 'K's powered Knight Porsche with an entrant, one Jim Miller of Scuderia MCS, driven by myself, which placed 16th, just missing out of the semi finals by less than a tenth of a second a lap.

The semi-finalists cars showed a most interesting variety, and for your interest I think it worth detailing the equipment. The semis were over twenty minutes and here is a list of cars and performance in laps on the three semi-final races.

Ramsdale, Brooklands club, Lancia Ferrari, K's Mk I motor, modified Airfix steering. 100.983 laps.

Turner, Birmingham, VIP Club Special Ferrari 99.384 laps.

D. F. Smith, Runaymede. Mercedes W196. Pittman DC70. MRRC steering 105.405 laps.

R. Martin, 30's club. BRM. K's Mk I Modified Airfix Steering. Retired. lost wheel.

Snewin. 30's. Lotus 25 Airfix body twin Microperm motors 4 wheel drive. 106.895 laps.

Jordan. Green Street Green club. BRM. Twin Microperm Brakes on front 4 wheel drive 96.672 laps.

Chappel. Ecurie Spa. Ferguson K's Mk I 4 wheel drive 103.48 laps.

Pledge. Ecurie Spa. Cooper. K's Mk I. MRRC steering. 104.715 laps.

Facer, Northampton. VIP Ferarri Triang Mk IV. 102.29 laps.

White. Brooklands. Maserati 4CLT. Twin Microperm 4 wheel drive. 98.886 laps.

C. Smith. Ecurie Spa. Cisitalia. MRRC motor and steering. 104.515 laps.

Perry. Birmingham. BRM. K's Mk I. Modified Airfix steering. 99.352 laps.

This left Snewin with the Twin Microperms, D. Smith with the Pittman, C. Smith with the MRRC, and Pledge with the K's to battle for the 200 laps of the final.

From the drop of the flag this was a tough one. Over the first few minutes the lead changed every few seconds, but as the four settled down it was obvious that the main battle was between the very light four wheel drive twin, and the Pittman powered Mercedes. These two gradually drew away from the other pair, who fought out their own exciting race for third place, but the leaders had to sweat out the full 200 laps. Watching closely, it seemed that the heavier car was faster through the bends but the Lotus accelerated a fraction faster. At the half way the Lotus drew away a little, but Smith must have been taking a breather because a few laps later he was again down the Lotus exhaust pipes, and retook the lead. Both cars were clocking 11.2 to 11.3 consistently, a very fast time under racing conditions. The marshals had a very easy time as the cars cornered as if they had solved the problem of finding "magnets" to hold on to the copper track tape . . . By the three-quarter distance the close packed, tense mass of spectators were urging on their favorite, but in hushed tones lest they disturb the drivers concentration. Snewin is a real master with the controller, and try as Smith did, he could not hold him off, so Snewin took the Checkers to win the Pittman Trophy for this year.

The Race has of course aroused great controversy about the best motor to use. The twin Microperm set up had its origins at Brooklands, and is undoubtedly hard to beat. The Pittman showed what can really be done with this motor for the first time at a Spa Meeting, although, as a purist for scale, I would question the owner's method of taming the power of the big motor. He used a 4 to 1 gear, and lowered it still more by fitting small wheels on the Mercedes . . . much out of scale, but the scrutineers allowed it, and the car certainly went like a rocket. I think only Snewin's slightly better driving won the race for him, and a very fine race too. As for the other motors, Dave Pledge's K's ended two laps up on the MRRC and three laps down on the leader, but this cannot be taken as a true comparison. The MRRC was an oldie, and the latest version is much superior and Dave does not consider the Cooper his fastest car. He has another, a Ferrari which goes much faster but had pick up troubles in the heats, and on form would have given the leaders a harder time. Well, which one do we go for now? I think it still a matter of personal choice, but I for one am hunting for a DC196, and in the workshop are two Microperms!!!

Mention must also be made of a quieter event . . . the Concours d'Elegance . . . I believe you call them 'Beauty' competitions. All the entries had to race, but some superb models were there. The top two were almost impossible to separate . . . a '62 Cooper, and a Ferguson, both with every detail beautifully modeled. The Cooper finally took the award, as the Judge felt this was a more difficult subject to get such superb results.

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